Spring 5-7-2021

Vacated Spectacle: Inhabitance of Abandoned Stadiums

Jalaal Malik

Vacated Spectacle

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Vacated Spectacle | Inhabitance of Abandoned Stadiums

Request for Approval of Thesis Research

Project Book Presented to:

Timothy Frank

and to the
Faculty of the Department of Architecture
College of Architecture and Construction Management

by

Jalaal Malik

In partial fulfillment of the requirements for the Degree

Bachelor of Architecture

Kennesaw State University
Marietta, Georgia

May 7, 2021

Dedication

I would like to dedicate this project to my parents, Jennifer and James Norman.

Acknowledgment

I thank everyone who, in one way or another, contributed in the completion of my thesis.

Thank you Timothy Frank for guiding me through this process, and for the reassurance throughout the year.

Thank you Amber for your support and encouragement during our final year.

Thank you Darral for your insightful conversations and presentation opportunities.

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Chapter 01

INTRODUCTION

1.1 Abstract

Stadiums outside of play

I personally have experienced the drama of thousands screaming and celebrating at once for the home team or heard the roar of the crowd from outside the stadium. But where does the community connection go when the teams move on? In cities across the world, sporting venues are abandoned as national events depart and hometown teams relocate. Dan Meis expressed in Death of a Stadium that “NFL stadia host less than 20 events a year with 30-year lifespans. This equates to $25 million per event. “First, I questioned what can be done with the facility at the end of the season or after the final game has been played? Why should society walk away from these massive and expensive structures? Eduardo Galeano stated “Have you ever entered an empty stadium? Try it. Stand in the middle of the field and listen. There is nothing less empty than an empty stadium. There is nothing less mute than the stands bereft of people.”.

Now that desolation and silence has created a giant void within the city spatially and culturally. At least there can be a solution to increase the lifespan. Ultimately, national stadiums rely on tax funding to operate, but remain empty for the bulk of the year. But in situations like in Rio, the Olympic games costs the city about 12 billion to organize the colossal event, yet the buildings were left vacant and vandalized months afterwards. This led me to question how these colossal abandoned landmark structures can be re-introduced and utilized in the current community to better serve the people and possibly address social issues. The rapid city growth has led to housing shortages with about 19% of the population in impoverished living conditions. Hiller stated that “Stadiums and arenas have the greatest potential for multiple uses and revenue generation”, so rather than growing into the countryside, I believe the opportunity of change is embedded within the once celebrated area.

Stadiums not only affect the economy of an area but serve as a primary gathering space for the public. It is a place where individuals can come together and celebrate a cultural connection. Dating back to the Roman Colosseum, the stadium serves as multiple roles of connectivity and civic pride for the community. The Roman Colosseum had multiple uses including gladiator shows, battles, and plays. Centuries later it still stands as one of the most visited destinations in Italy. It is a prime example on how to utilize a stadium to serves its best throughout its life expectancy and how a stadium served as a cultural node within a community. Unlike common stadiums today, the Colosseum was not abandoned by the public. Throughout the years it continued to be an integral part of the urban life by transitioning to a post-occupancy function.

What happens next?

Reusing deserted structures is a great opportunity to save cultural applicability while executing sustainable methods and countering urban sprawl. The most efficient sustainable method may be avoid the demolition of the existing structure and using the structure to create new purpose. According to the United States Environmental Protection Agency "Repurposing old buildings—particularly those that are vacant—reduces the need for construction of new buildings and the consumption of land, energy, materials, and financial resources that they require." Boston University states that "financial and energy costs of producing and purchasing new building materials is often more damaging to the environment than incorporating adaptive reuse strategies of existing buildings." The sustainable advantage is remarkable, but recycling existing buildings serves the community as well.

Additionally, adaptive reuse is the best form of historic preservation, as seen in the Roman Colosseum. It revitalizes significant sites that would otherwise be left discarded. Preserving memorable buildings is important because of the cultural imprint that it has had on the area.

Lastly, the reuse of these gigantic structures can be a response to urban sprawl. The historic space can be utilized for modernized uses as cities' populations continue to increase. Rather than looking for new construction sites outside of the current urban confinement, these desolate structures serve as a base to accommodate a new creation. Having an empty building does nothing for the surrounding neighborhood but developing the abandoned structure and giving life to a landmark may bring the community back to life. Shown in Figure 1, successfully reusing the stadium may be the solution for the building and community instead of demolition.

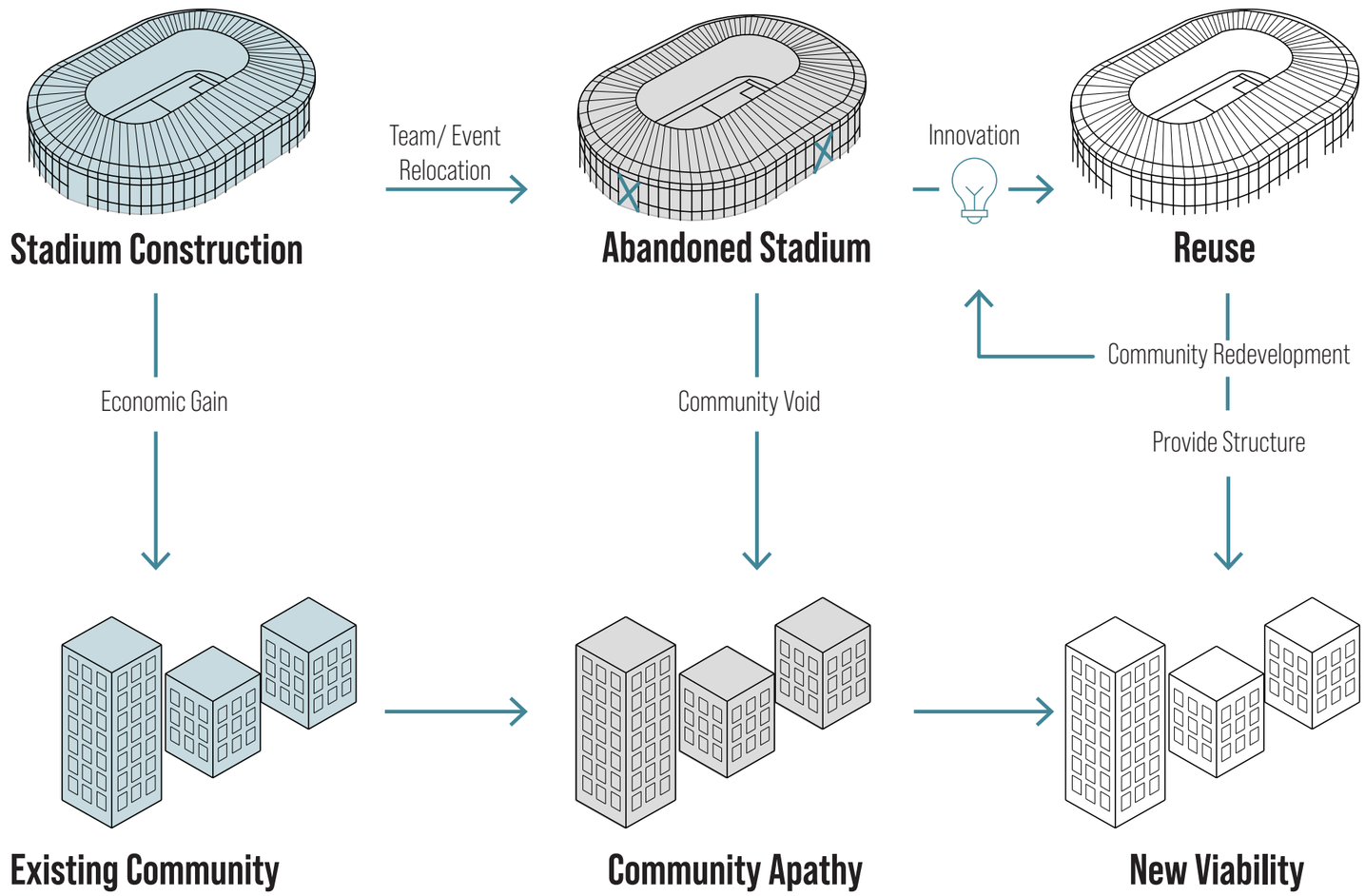


Figure 1.1

1.2 THESIS STATEMENT

This thesis aims to investigate the afterlife of abandoned stadiums to provide a solution regarding the re-use and re-invention of these structures in order to integrate it back into the urban fabric. Instead of leaving the facility to rot, my thesis proposes for a transformation of the stadium typology to make a new space to accommodate the individual of the collective whole. The project capitalizes from a decaying space to provide longevity while solving the social needs for the city and to give new purpose to the vacated spectacle. .

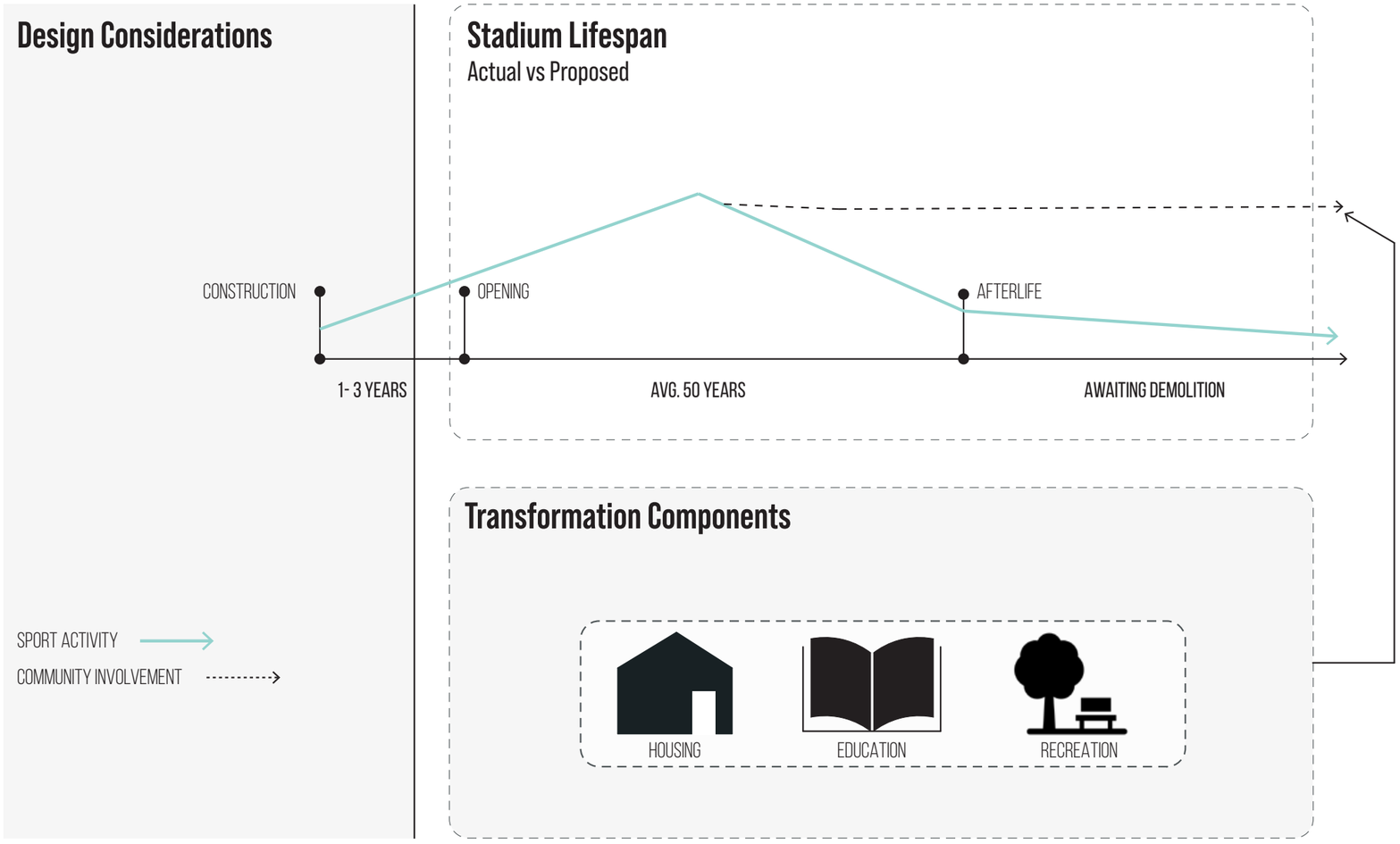


Figure 12

Figure 2 establishes the idea that introducing new program types into the stadium will extend the afterlife. Three new components will be added to the structure. However, the typology of the stadium becomes a concern in this method.

1.3 Typology Challenge

RESEARCH QUESTION: How is the stadium's structural typology fitted for long -term uses, therefore increasing the frequency of use through multiple functions so it can be an integral part of the urban fabric.

INQUIRY: The current stadium typology is sufficient for large collective gathering, flexible uses central to the structure, its permeability, certain shared amenities, and circulation.

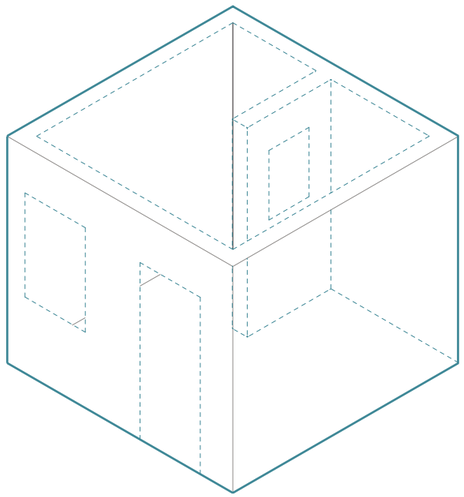
However it's structure does not account for long term inhabitation because of its lack of intimacy, lack of ability to address the individual, no small scale spatial arrangement, limited degree of enclosure, a limited material palette, and misaligned floor levels. My solution for my inquiry will be investigated through principles that will guide my thinking and designing process.

Chapter 02

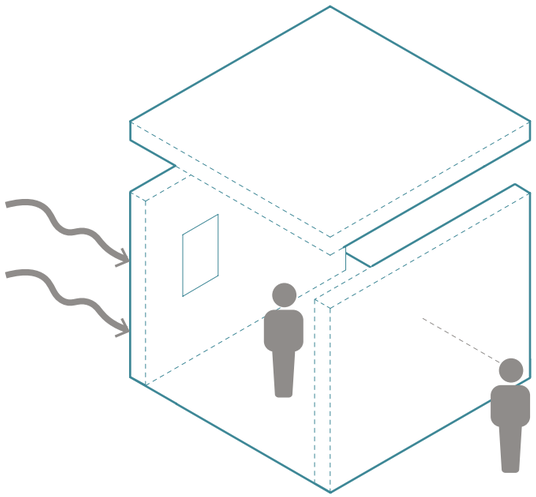
INVESTIGATION

2.1 ARCHITECTURAL PRINCIPLES

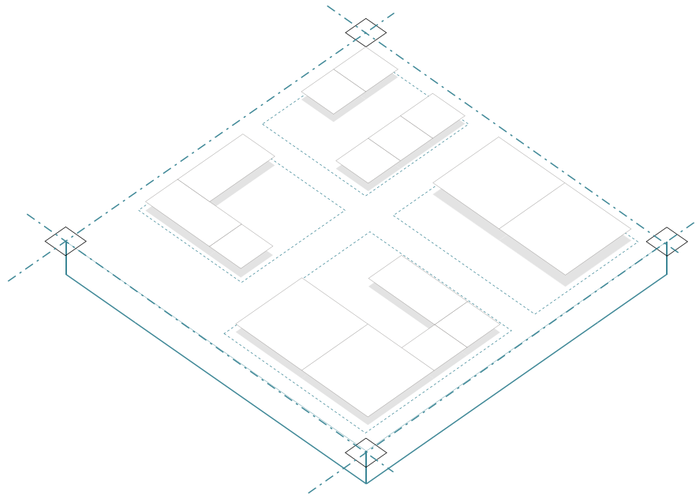
01 IDENTITY



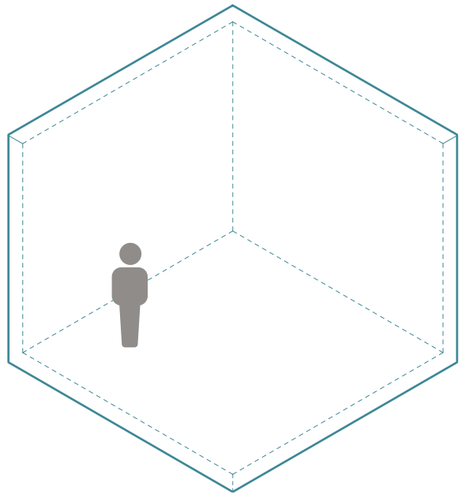
02 DEGREE OF ENCLOSURE



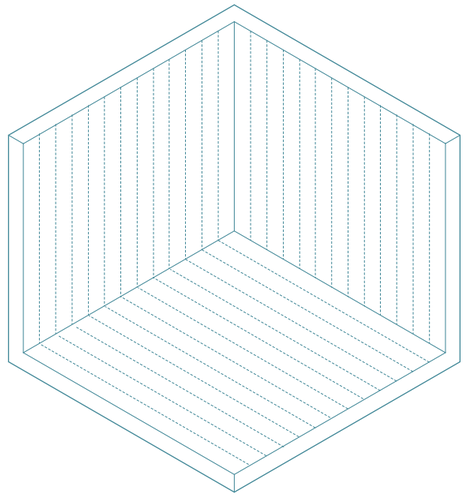
03 SPATIAL HIERARCHY



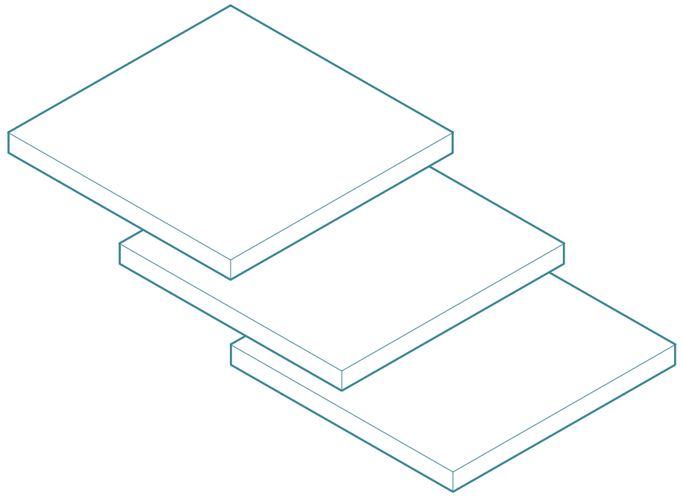
04 SMALL SCALE SPATIAL APPOINTMENTS



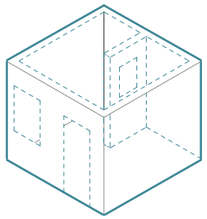
05 MATERIAL PALETTE



06 NOTION OF LEVELING

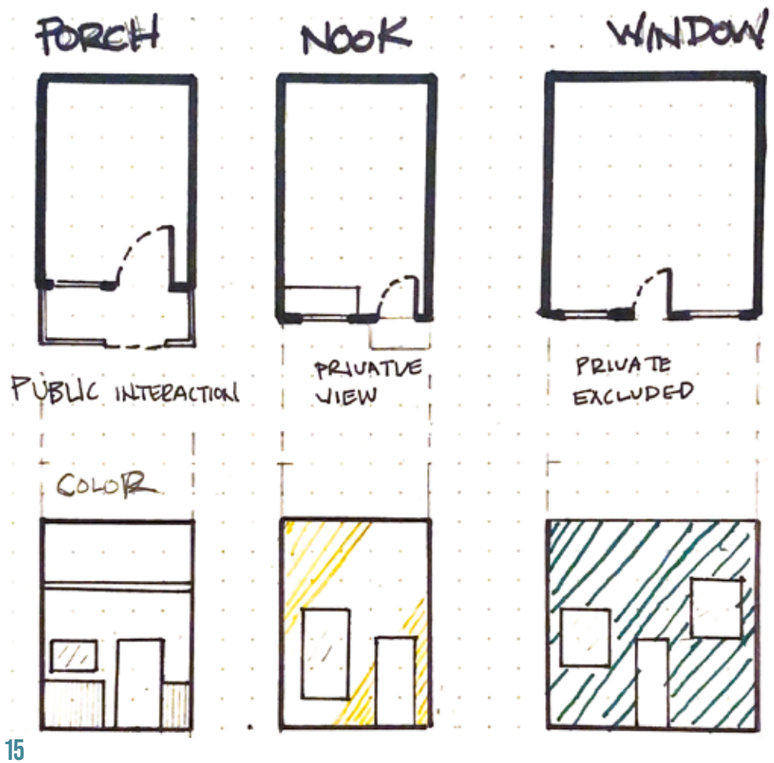


01 IDENTITY

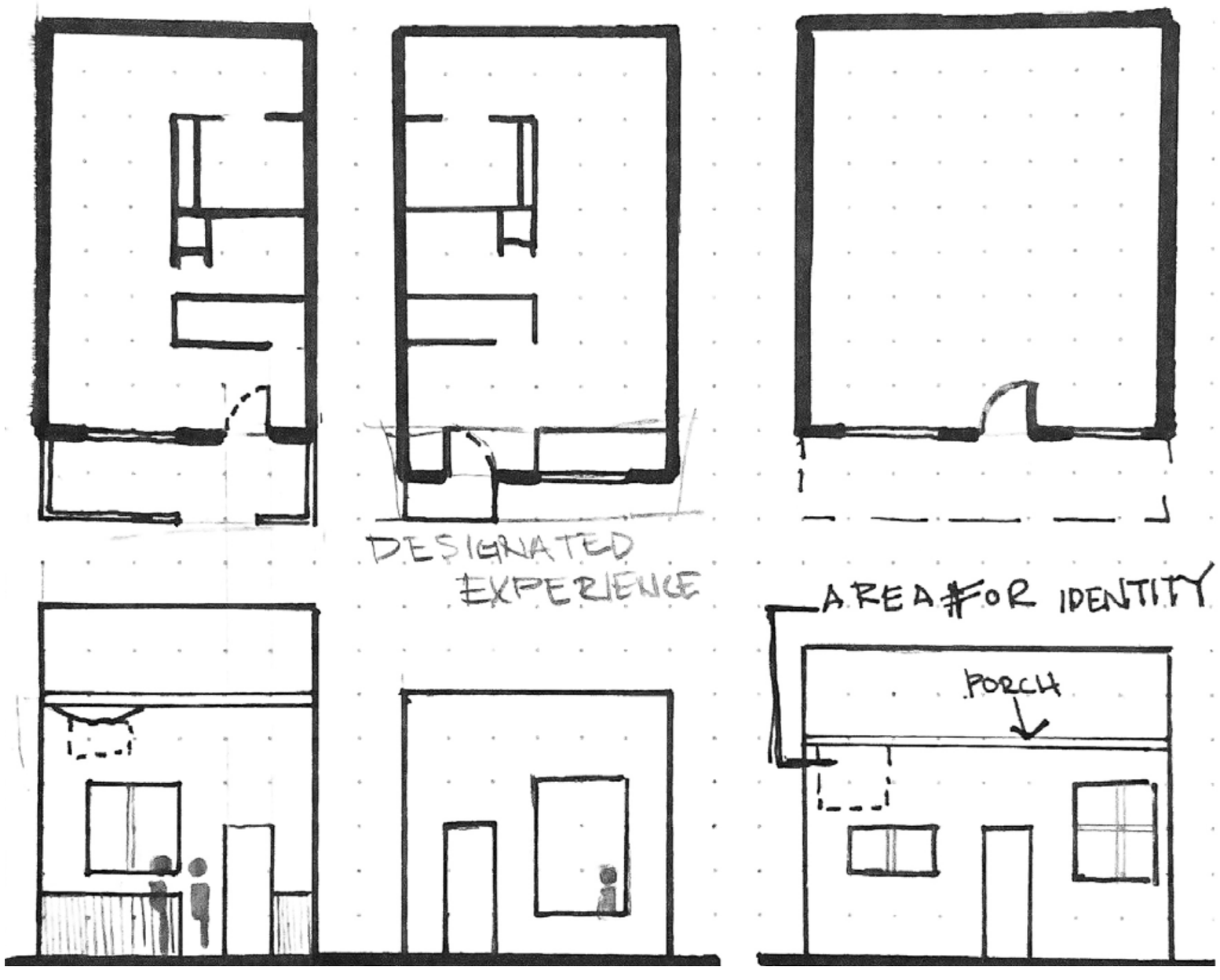


How is universal space able to be personalized and reconfigured to suit individual needs?

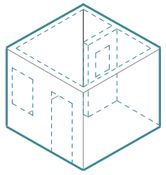
The main component of having a long term occupancy is having the ability to express your personality in your space. My principle investigated areas of a home that are commonly used for self-expression.



Areas of Control?



CASE STUDY

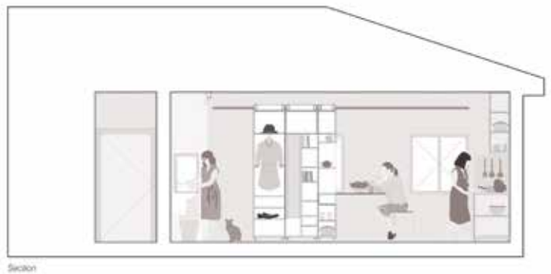


All I Own House

Location: Madrid Spain| Architects: PKMN Architecture | 2014

The small customizable home materializes the interior of a house through its inhabitant's **personal** belongings.

Figure 2.1



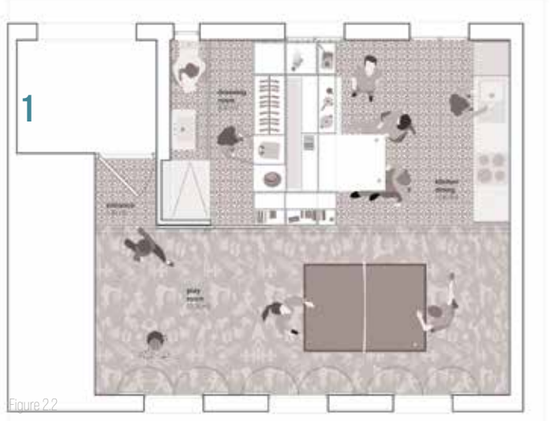


Figure 2.2

Figure 2.3

Personalized Configurations

Relationship between built and unbuilt shows how the unit layout is determined by the user.

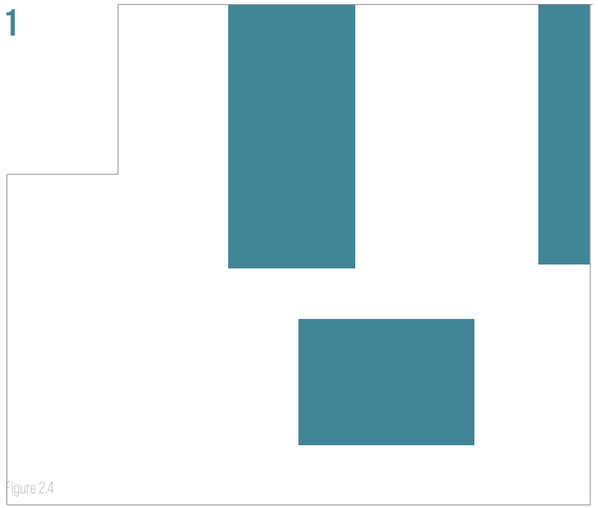
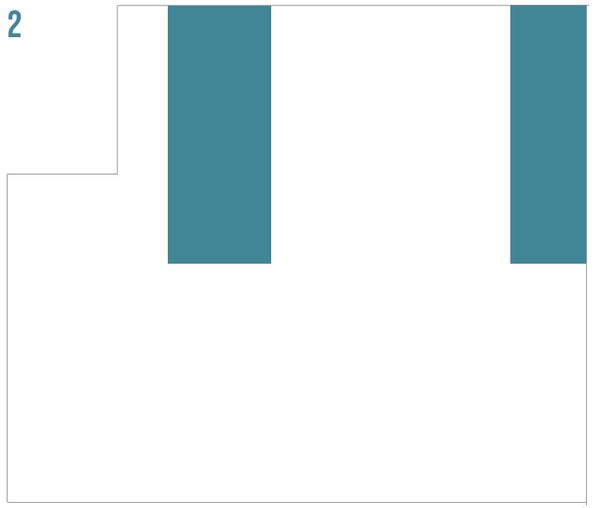
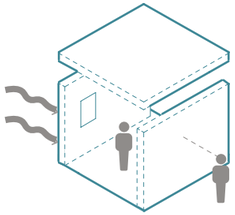


Figure 2.4

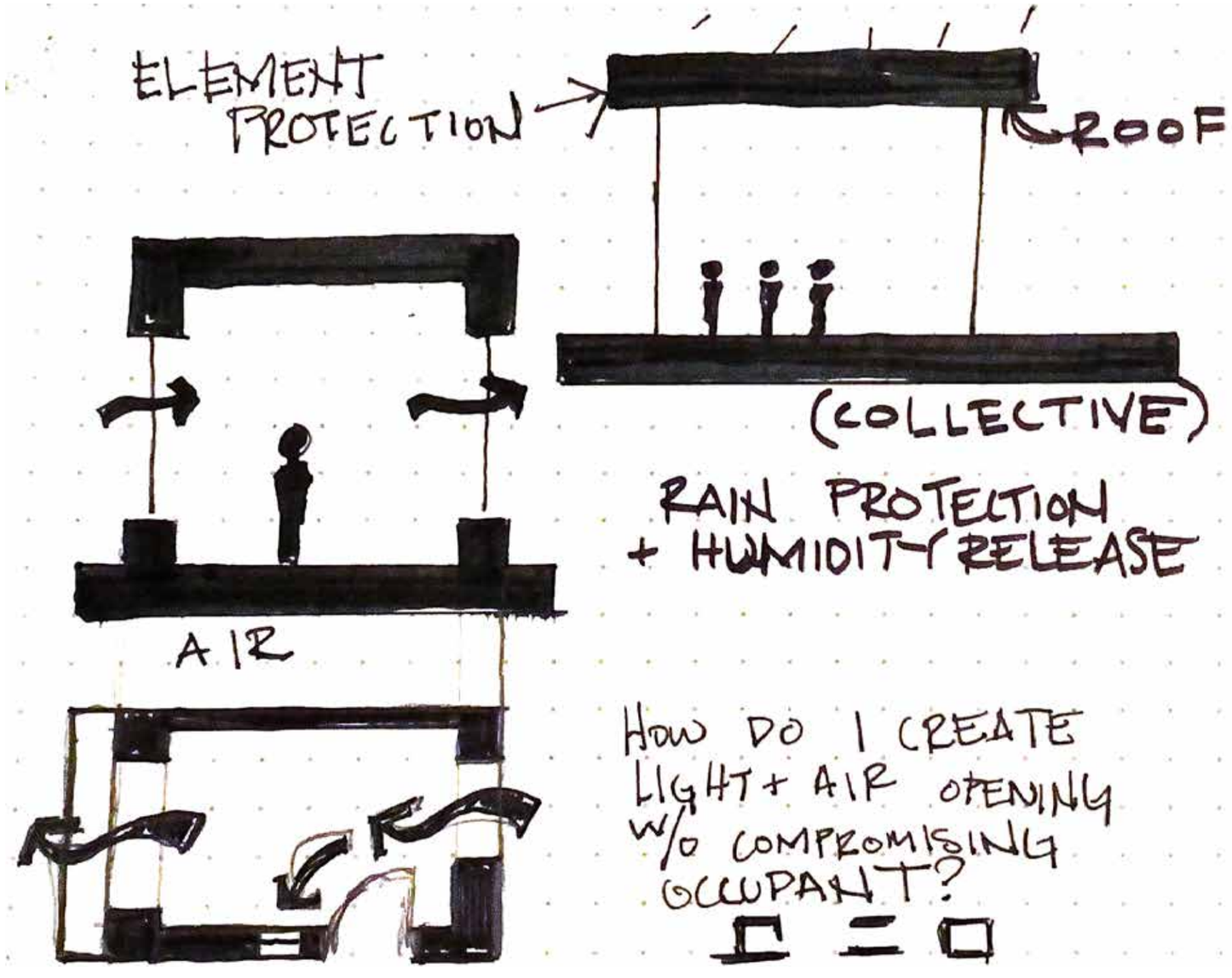


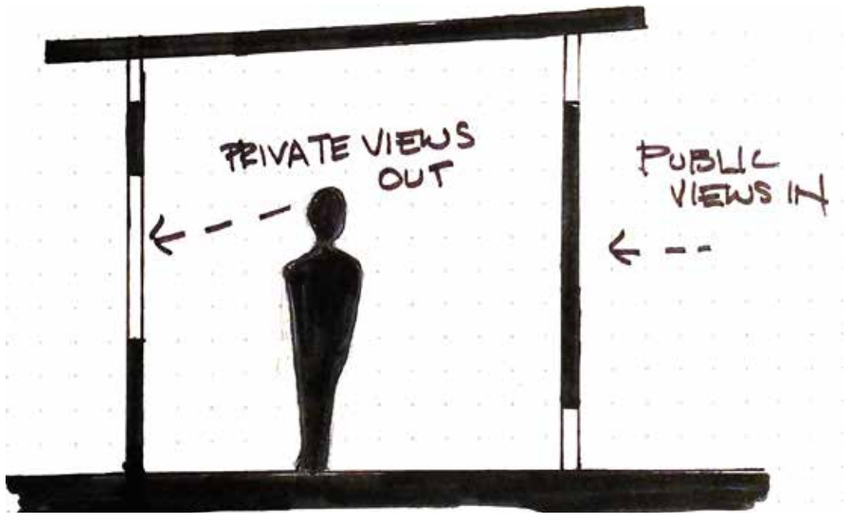
02 DEGREE OF ENCLOSURE

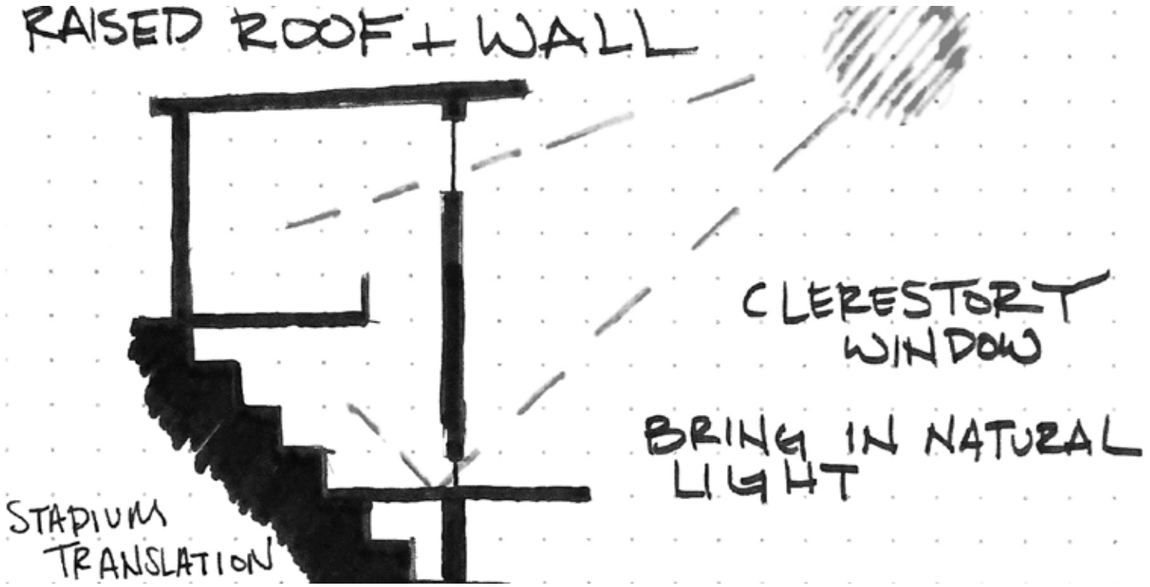


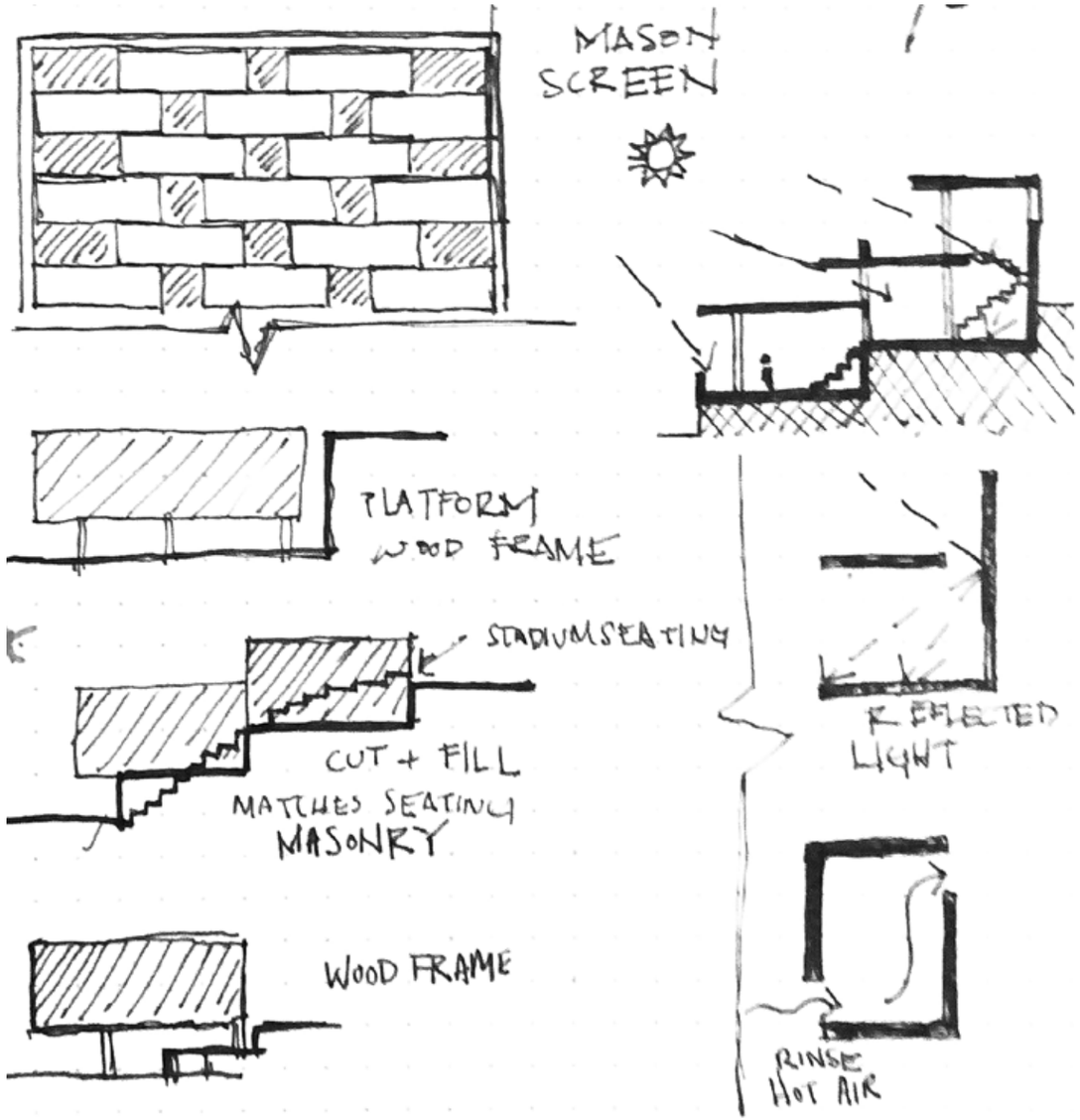
How is a highly permeable structure enclosed for variable forms of shelter/acclimatization?

The process of determining how an occupant can be protected from natural elements. During the process the configuration has to be adjusted to give visual and light needs for them.

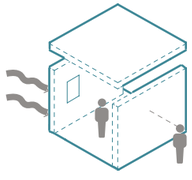



PRIVATE VIEWS OUT
PUBLIC VIEWS IN


RAISED ROOF + WALL
CLERESTORY WINDOW
BRING IN NATURAL LIGHT
STADIUM TRANSLATION


MASON SCREEN
PLATFORM WOOD FRAME
STADIUM SEATING
CUT + FILL MATCHES SEATING MASONRY
WOOD FRAME
REFLECTED LIGHT
RINSE HOT AIR

CASE STUDY



Highbury Square

Location: Highbury, London| Architects: Allies and Morrison | 2009

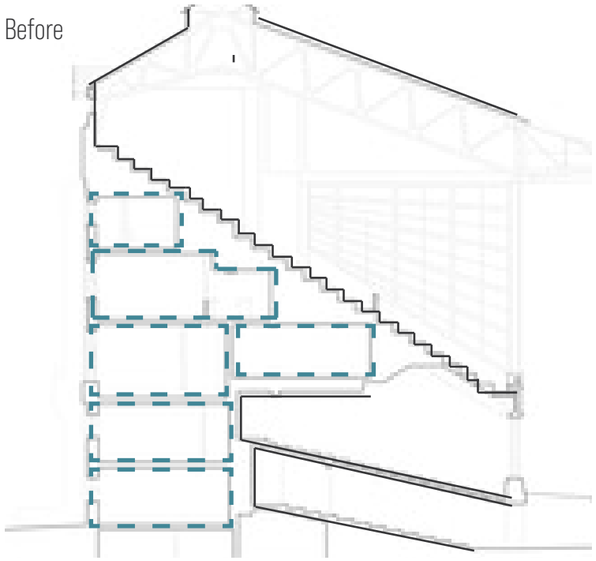
Rather than demolition, Allies and Morrison converted the stadium into luxury apartments and allowed for the **preservation** of the facade.

Figure 2.5

Method of Enclosure

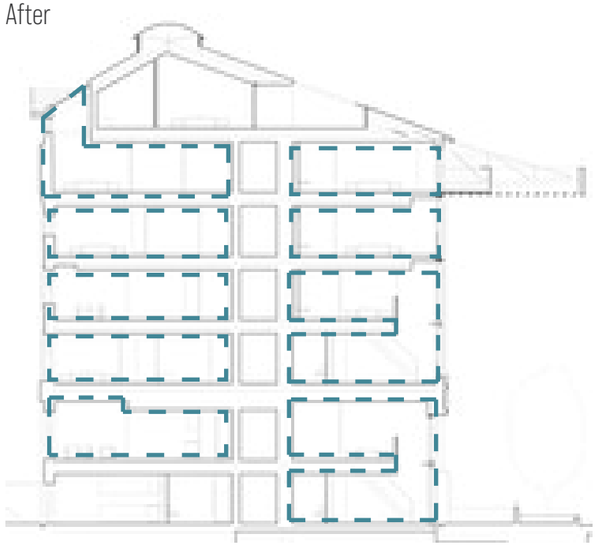
Creates a new system within existing structure while using primary structural skeleton.

Before



Open

After



Enclosed

New infrastructure

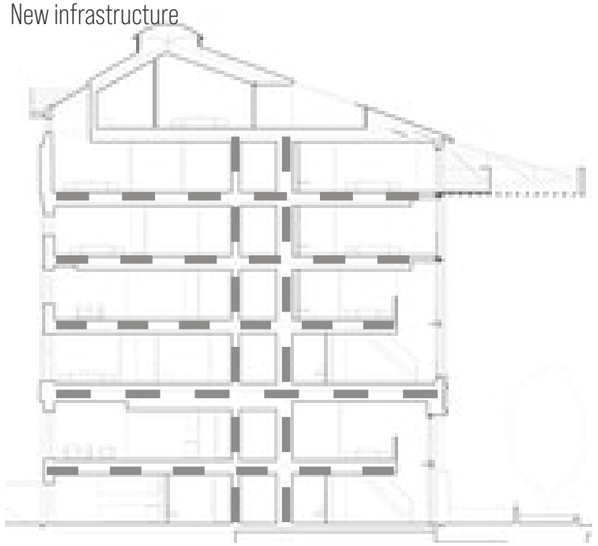
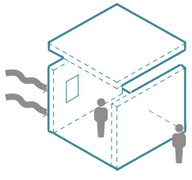


Figure 2.6

CASE STUDY



ASA Steam School

Location: Asuncion, Paraguay | Architects: Equipo de Arquitectura

Throughout the building, visuals are obstructed by walls to provide **privacy** and protect from noise. However air is allowed to cross ventilate and light can enter each room.

Figure 2.7

Exterior Perspective

Light is still allowed through screen, but the screen prevents views in.

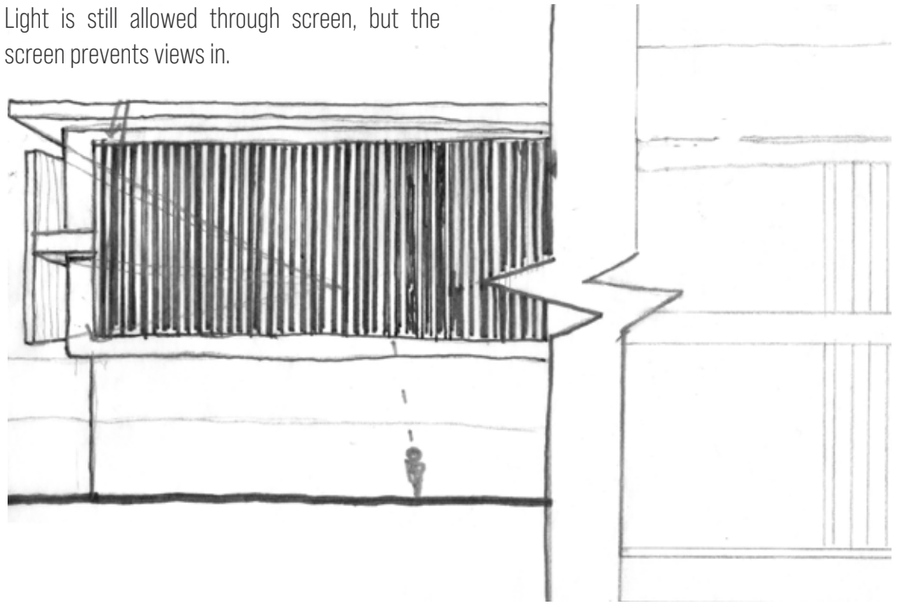


Figure 2.8

Views in Section

Relationship between built and unbuilt shows how the unit layout is determined by the user.

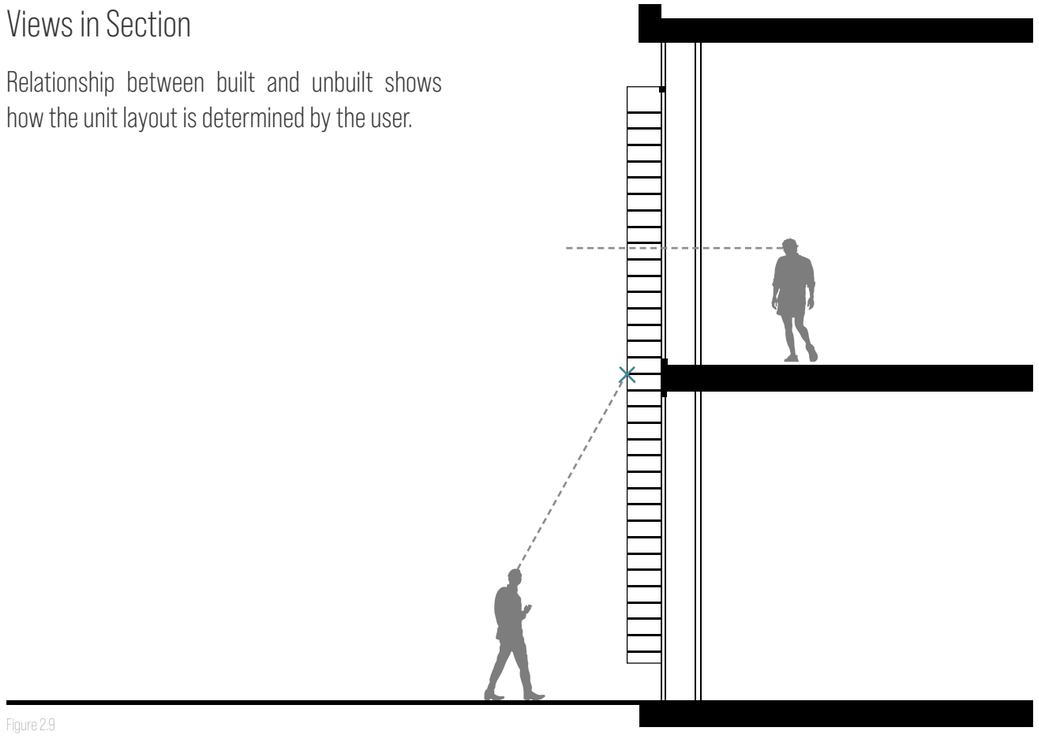
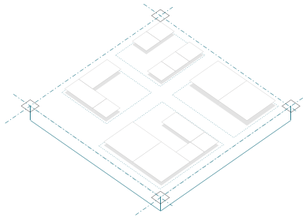


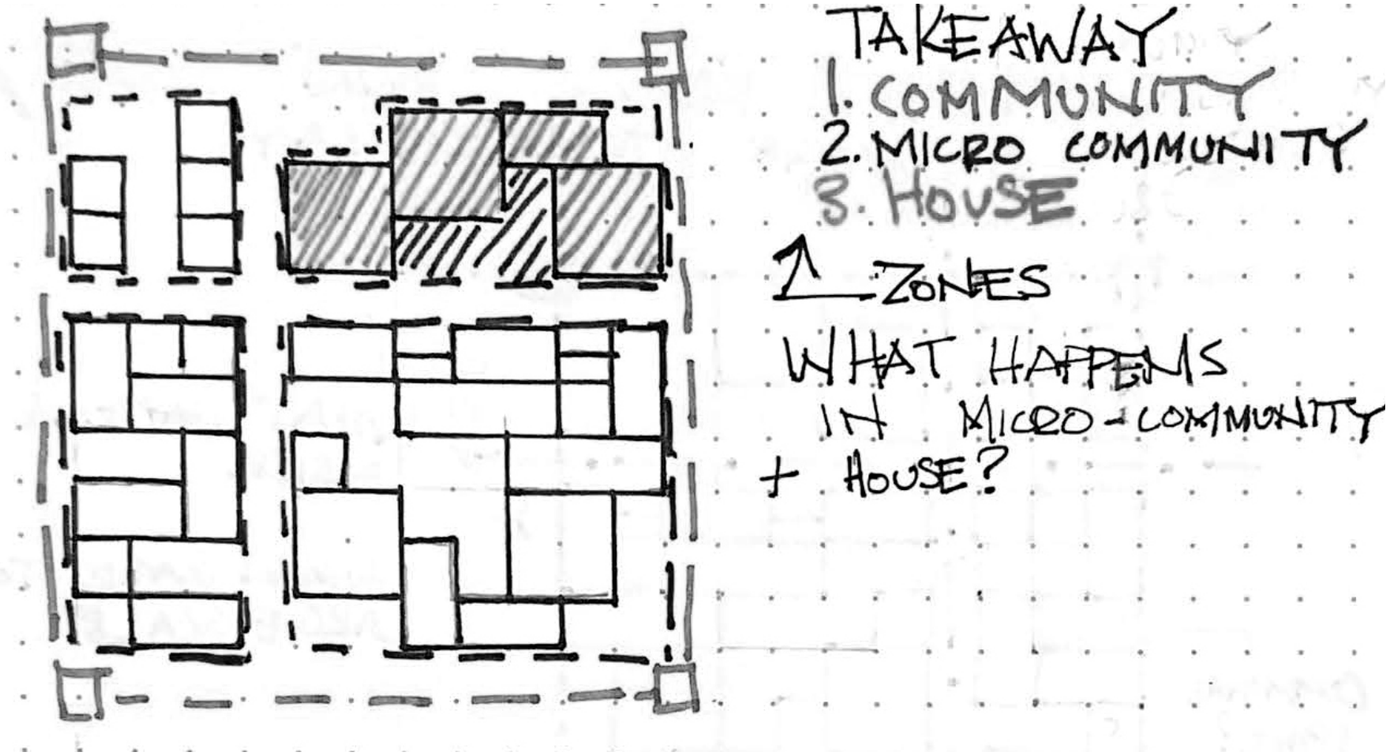
Figure 2.9

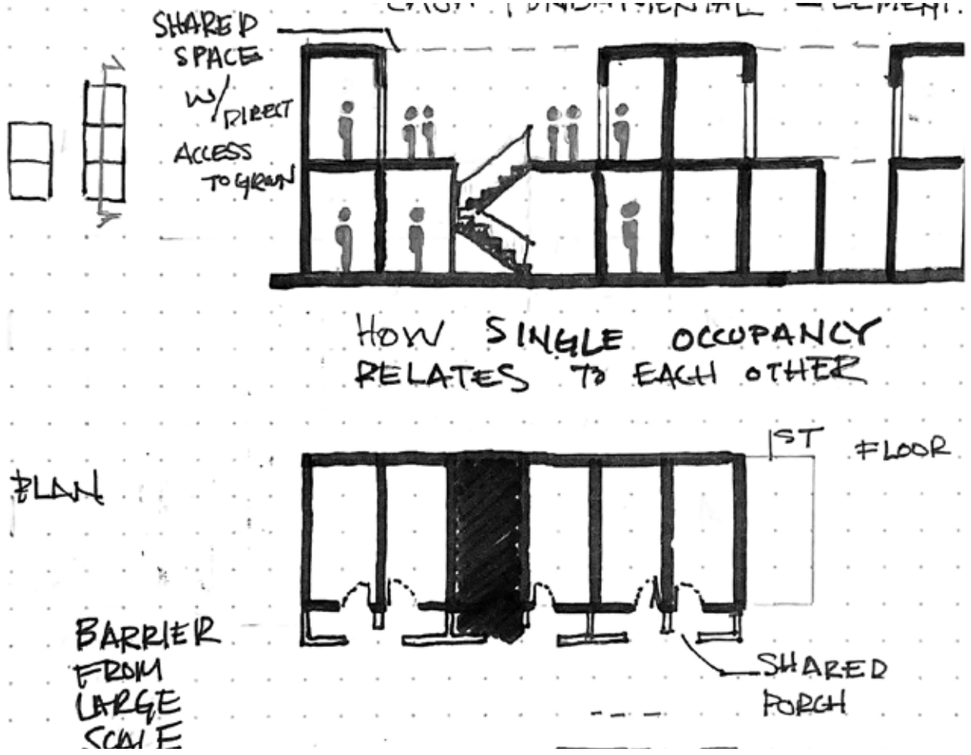
03 SPATIAL HIERARCHIES

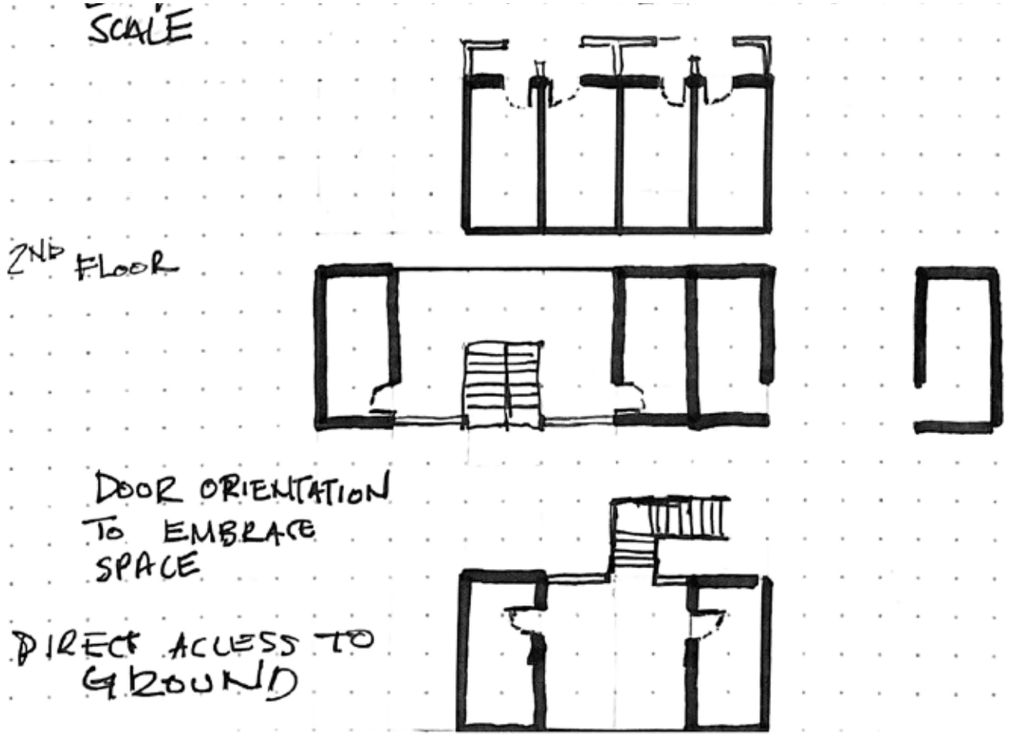


How are large scale collective spaces broken down into small-scale single-occupancy space types?

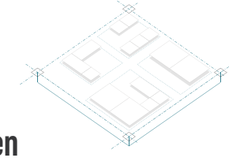
I looked to occupy levels at multiple scales. The collective space is connected through visual synergy. Even though the inhabitant isn't physical in the space, they can use other senses to experience the collective whole. At a small scale, the misaligned levels may can be directly interacted with for lounging.




SHARED SPACE W/ DIRECT ACCESS TO GRADE
HOW SINGLE OCCUPANCY RELATES TO EACH OTHER
1ST FLOOR
PLAN
BARRIER FROM LARGE
SHARED PORCH


SCALE
2ND FLOOR
DOOR ORIENTATION TO EMBRACE SPACE
DIRECT ACCESS TO GROUND

CASE STUDY



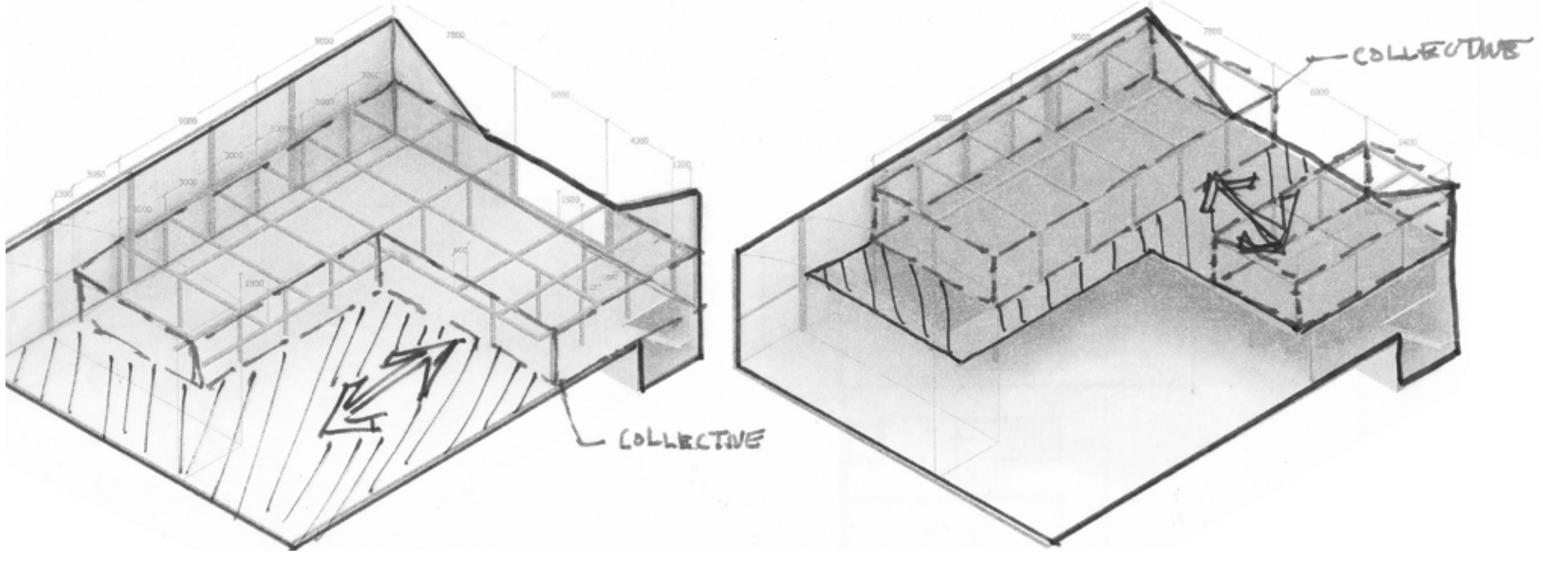
Casa Fundamental Kindergarten

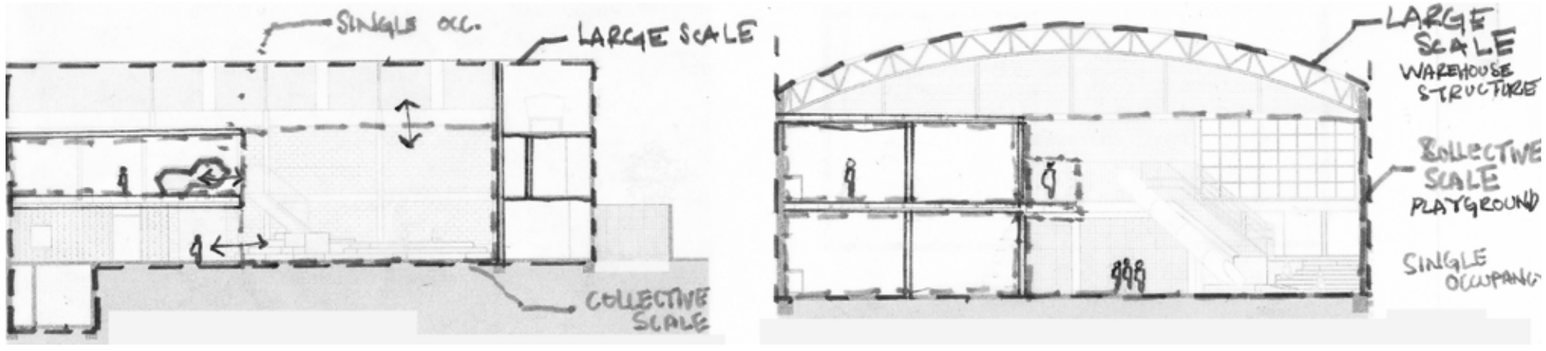
Location: Castelo, Brazil | Architects: MOBIO Arquitetura, Marcos Franchini, Pedro Haruf | 2017

The project uses an existing warehouse to transform an industrial building to educational use. The warehouse is **broken down** through smaller areas that creates a relational space around the internal square.

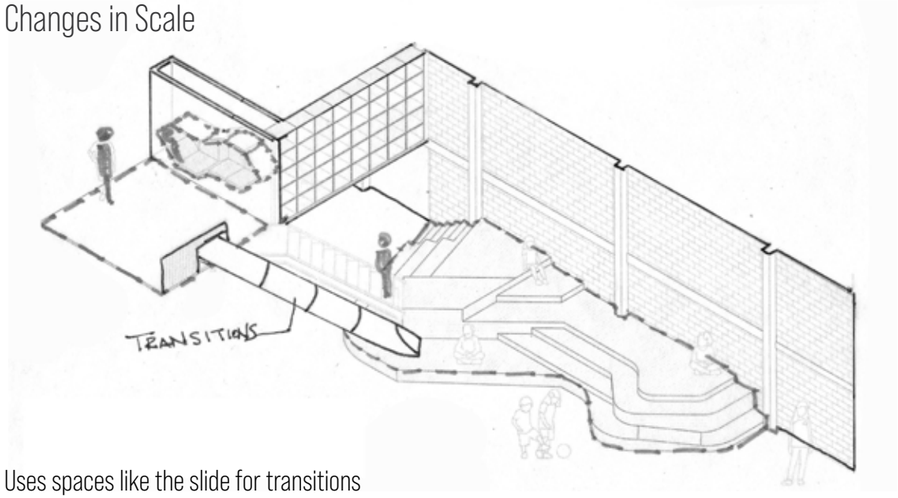
Small intimate spaces are housed inside of the collective whole. Users are allowed to share collective experience, but in an intimate setting. Collective space resides on multiple levels and two scales are embedded in the overall larger spaces.

Figure 2.10



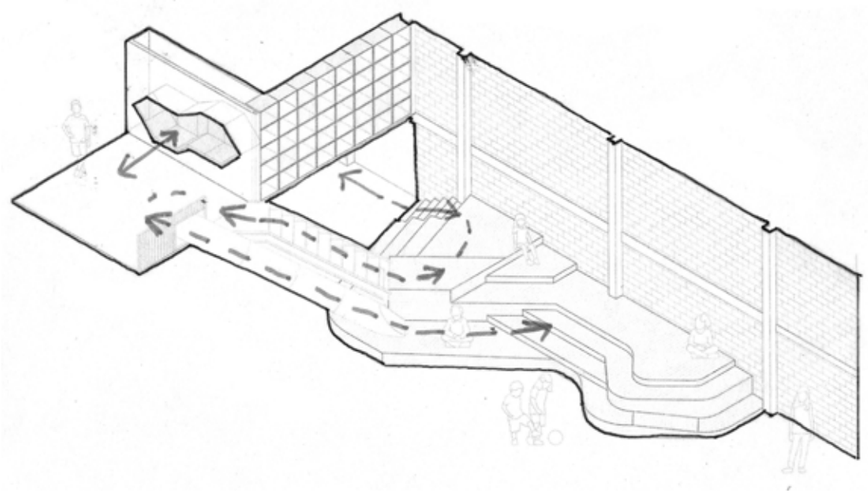


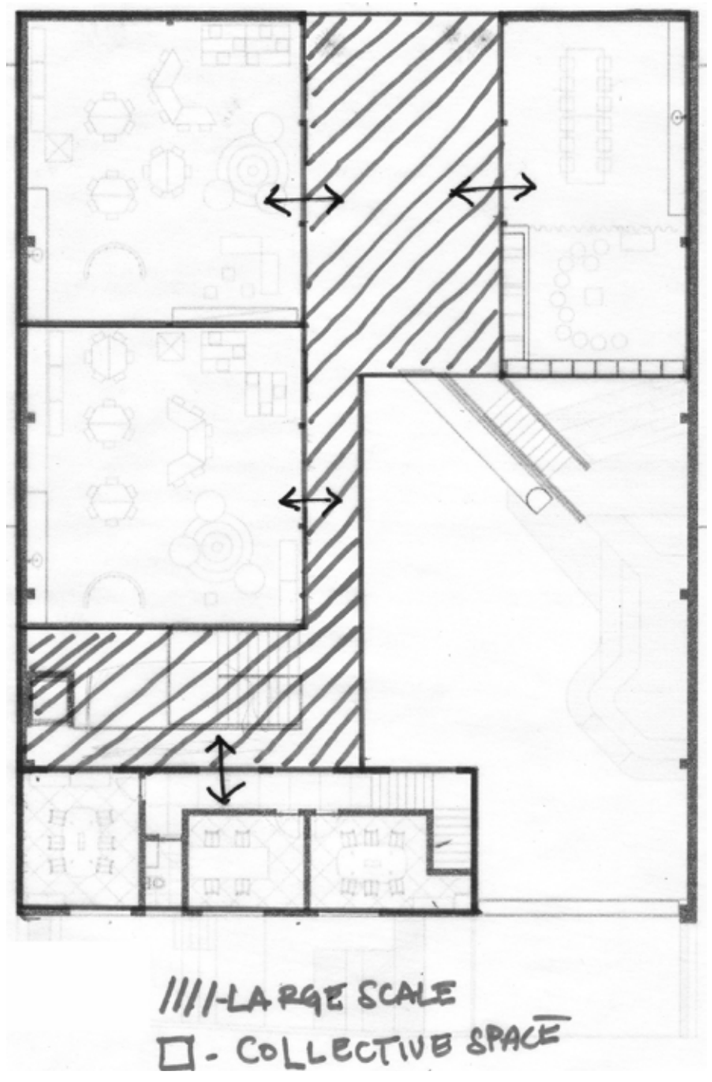
Changes in Scale



Uses spaces like the slide for transitions

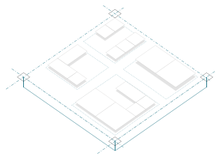
3-Dimensional Travel Path





Spatial Relationship

CASE STUDY



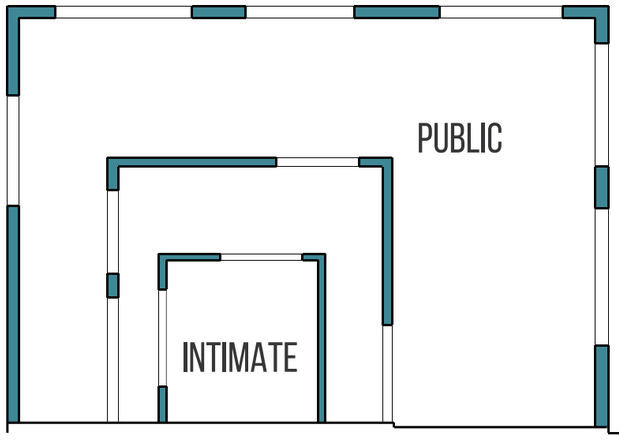
House N

Location: Oita, Japan | Architects: Sou Fujimoto Architects | 2008

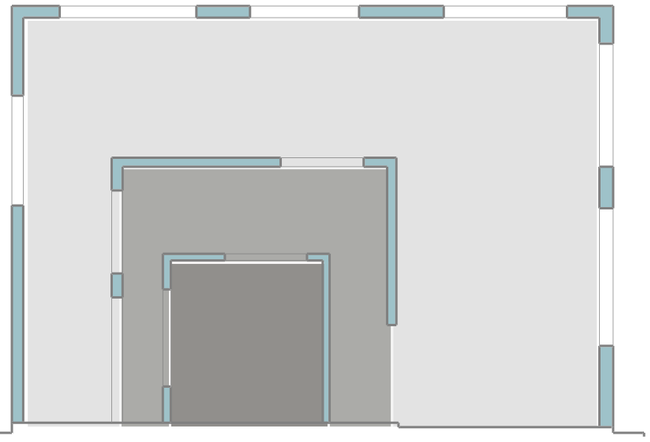
The house is composed of three shells. The largest shell covers the entire premises. Second shell encloses a limited space inside the covered outdoor space. Third shell creates a smaller intimate space. The design creates a gradation of domain.

Figure 2.11

Spatial Relationship

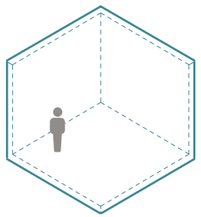


shells change scale to create a new space within each other

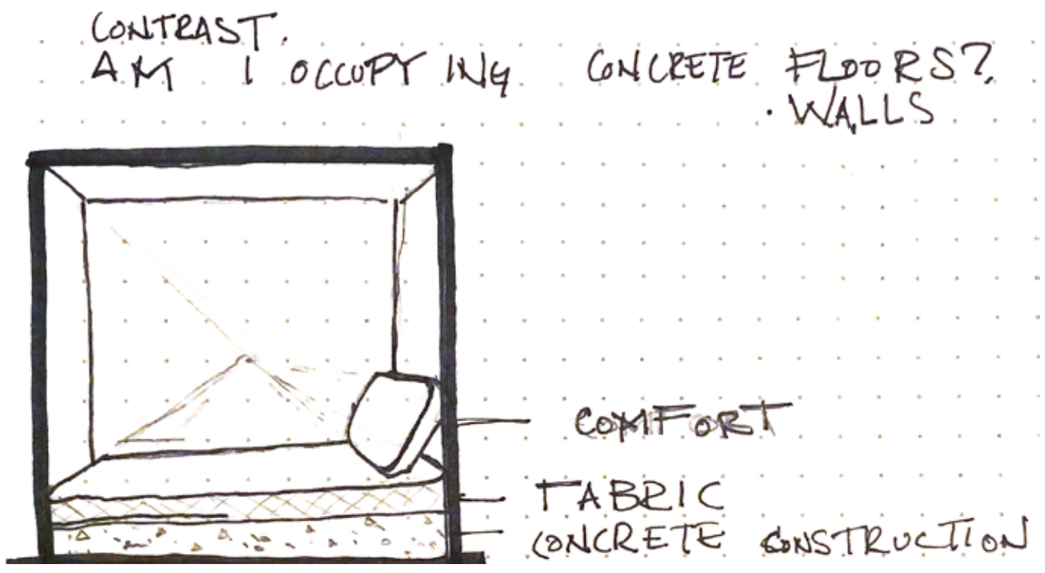


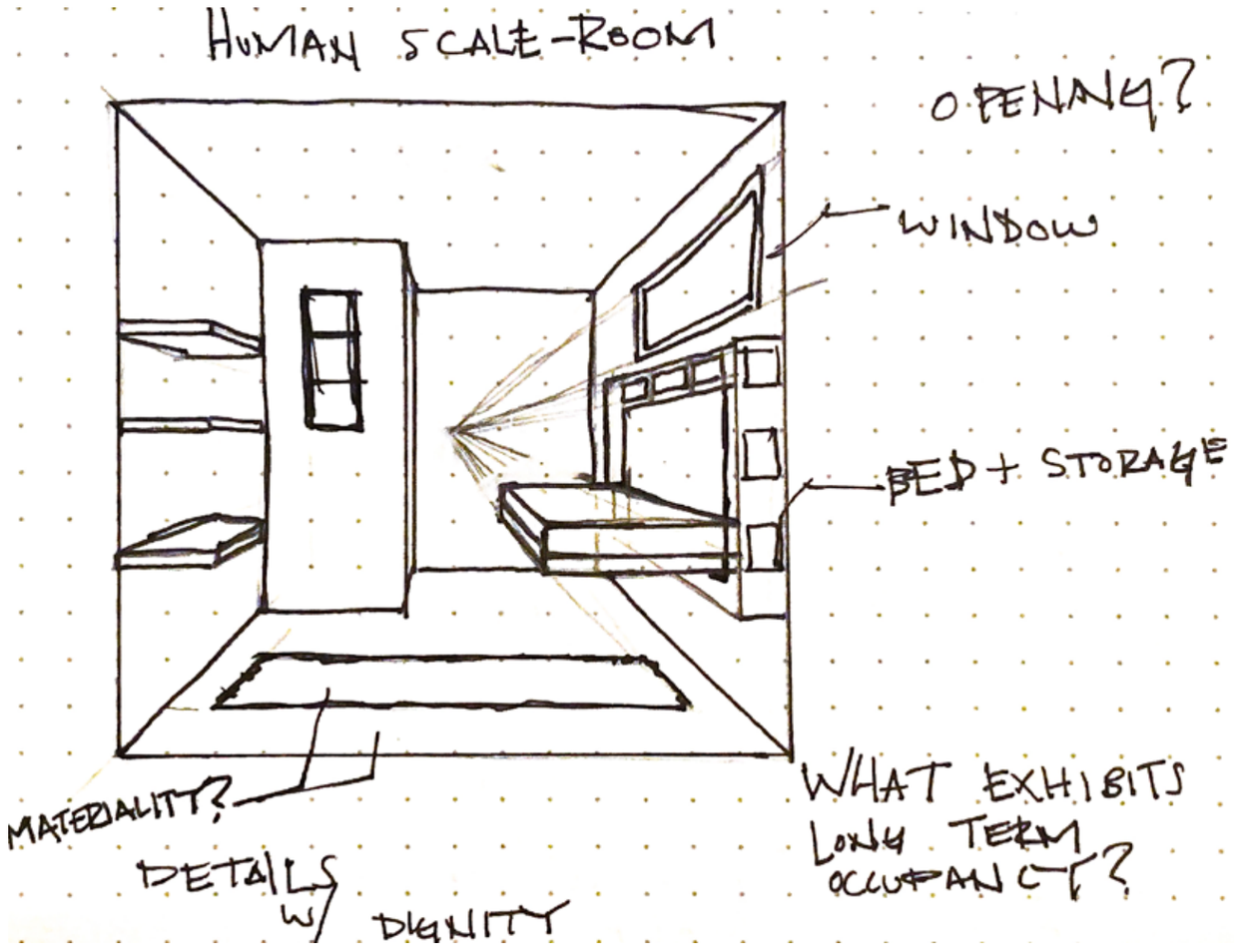
the gradation shows the relational space of public and intimate

04 SMALL SCALE SPATIAL APPOINTMENTS

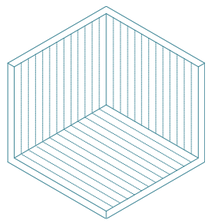


How are human-scaled spaces detailed to acknowledge long-term inhabitation.





05 MATERIAL PALETTE



How does the material palette expand to address direct human interaction and comfort?

I investigated materials at different scales looking at human interaction, comfort, and warmth.

Long Term Materiality

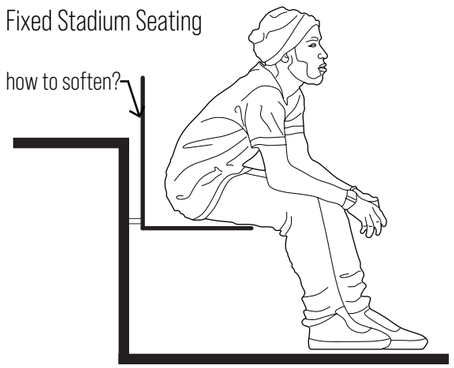
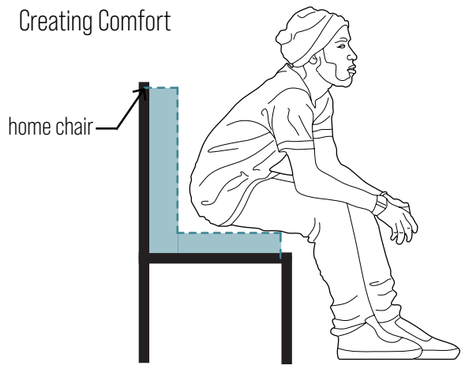
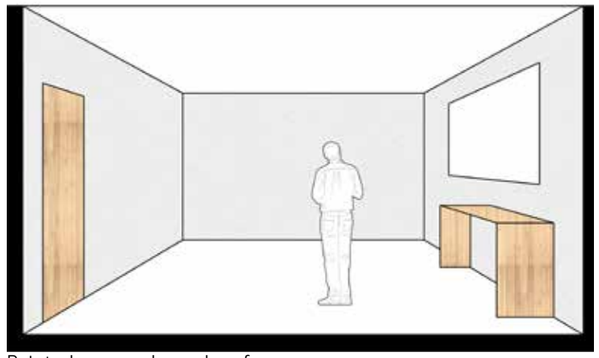


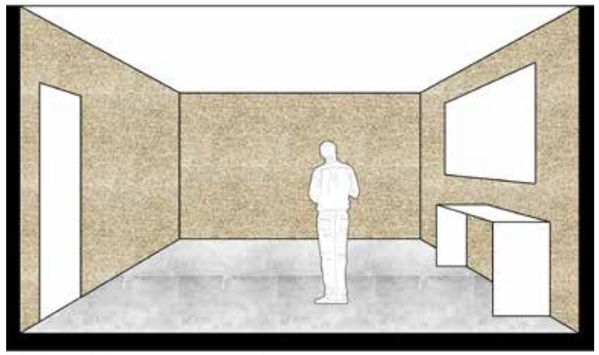
Figure 2.12





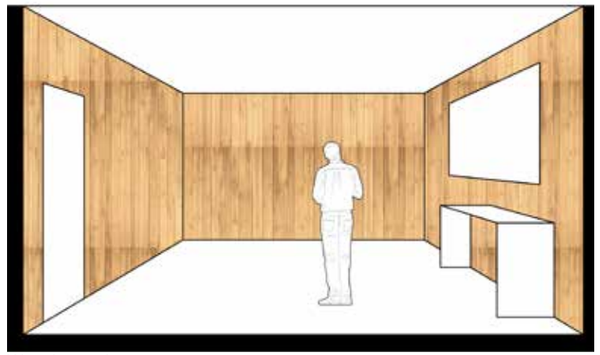
Painted cmu and wood surfaces

Figure 2.13



Wool module on concrete slab

Figure 2.14



Wood paneling

Figure 2.15

CASE STUDY

Casa Fundamental Kindergarten

Location: Castelo, Brazil | Architects: MOBIO Arquitetura, Marcos Franchini, Pedro Haruf | 2017

To contrast the hard industrial surfaces, the infrastructure uses a variety of **material and textures** including: wood, fiberglass, tiles, and inviting moderate colors.

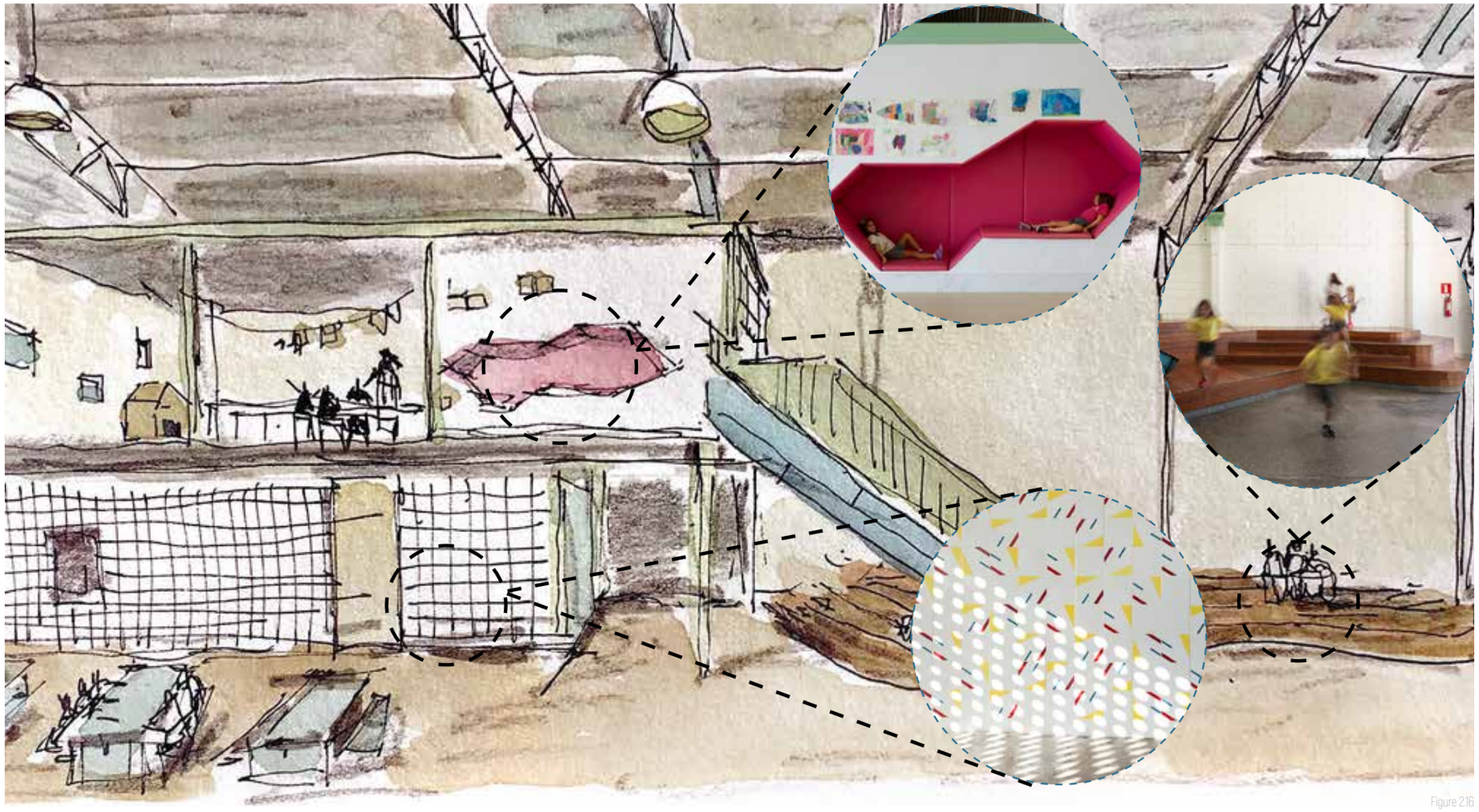
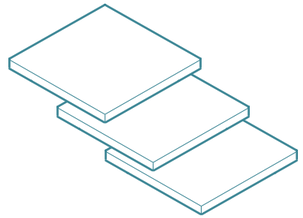


Figure 2.16

06 NOTION OF LEVELING



How are misaligned floor levels occupied?

I looked to occupy levels at multiple scales. The collective space is connected through visual synergy. Even though the inhabitant isn't physical in the space, they can use other senses to experience the collective whole. At a small scale, the misaligned levels may can be directly interacted with for lounging.

Collective Space

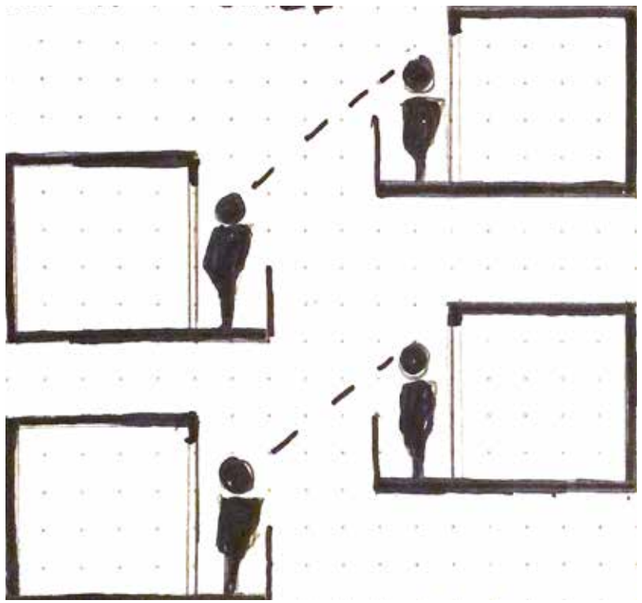


Figure 2.17

Furniture Scale

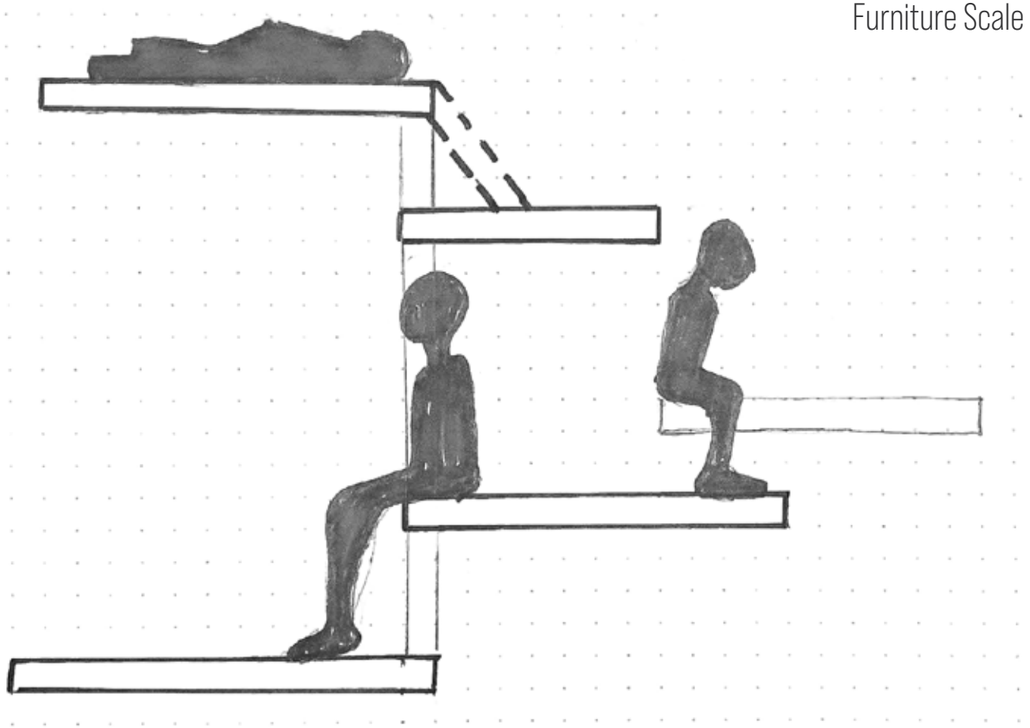
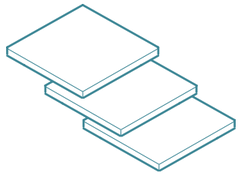


Figure 2.18

CASE STUDY



Stair House

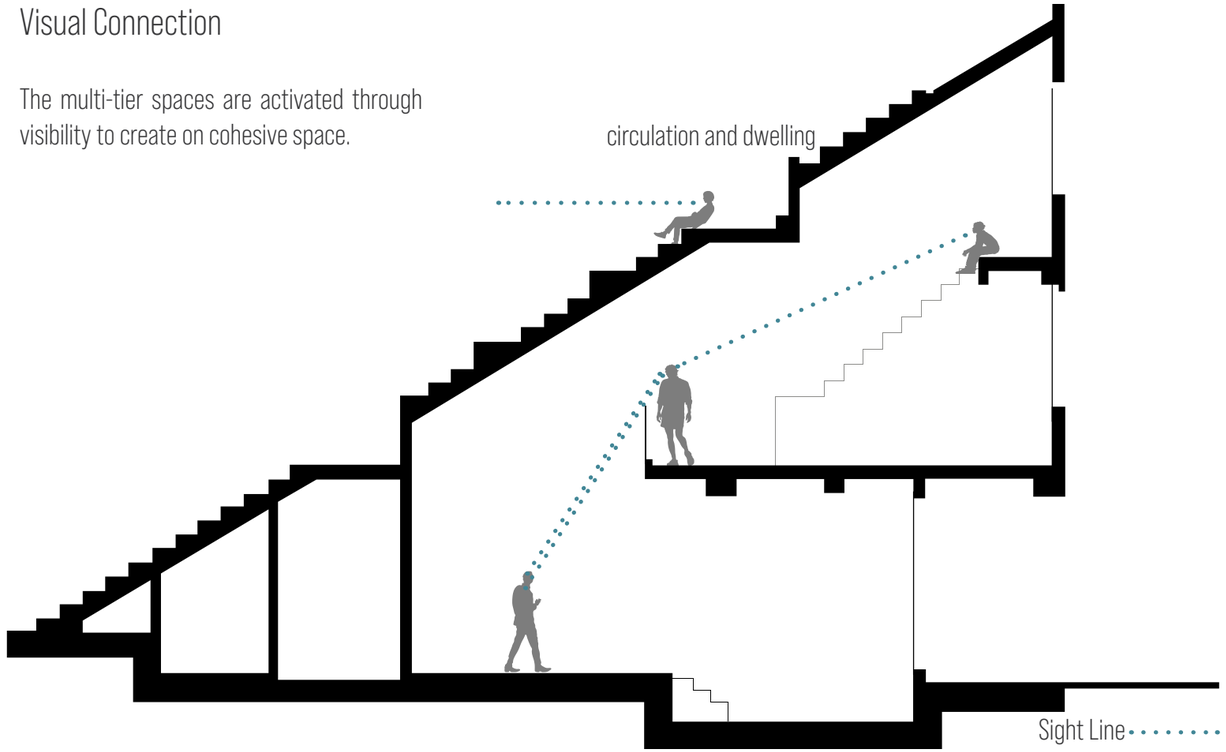
Location: Jeju-Si, South Korea | Formative Architects

Various **misaligned levels** that are visually and spatially connected are housed under seating that serves as circulation and leisure.

Figure 2.19

Visual Connection

The multi-tier spaces are activated through visibility to create on cohesive space.



Chapter 03

SITE EXPLORATION

3.1 LOCATION

My site search started by recalling the controversy that plagued the conclusion of the 2014 World Cup and 2016 Olympics in Brazil. Such events are supposed to be a great celebration for the country, but it critically damages the host. In an article from The Guardian, Bruce Douglas states “According to figures from Rio de Janeiro city government, 22,059 families have been resettled since 2009, either because of their homes being labelled “at risk” or to make way for transport and other infrastructure projects related to the Rio 2016 Olympic Games.” Brazil constructed twelve arenas for the World Cup and Olympics; however, most sit vacant today. The construction of new arenas caused families to be removed from their homes and relocated to the outskirts which forced residents to deal with “a lack of local schools, health facilities and other basic infrastructure”. Local citizens have not benefited at the least from any of these massive stadiums.

Map of South America

Figure 3.1

Map of Brazil

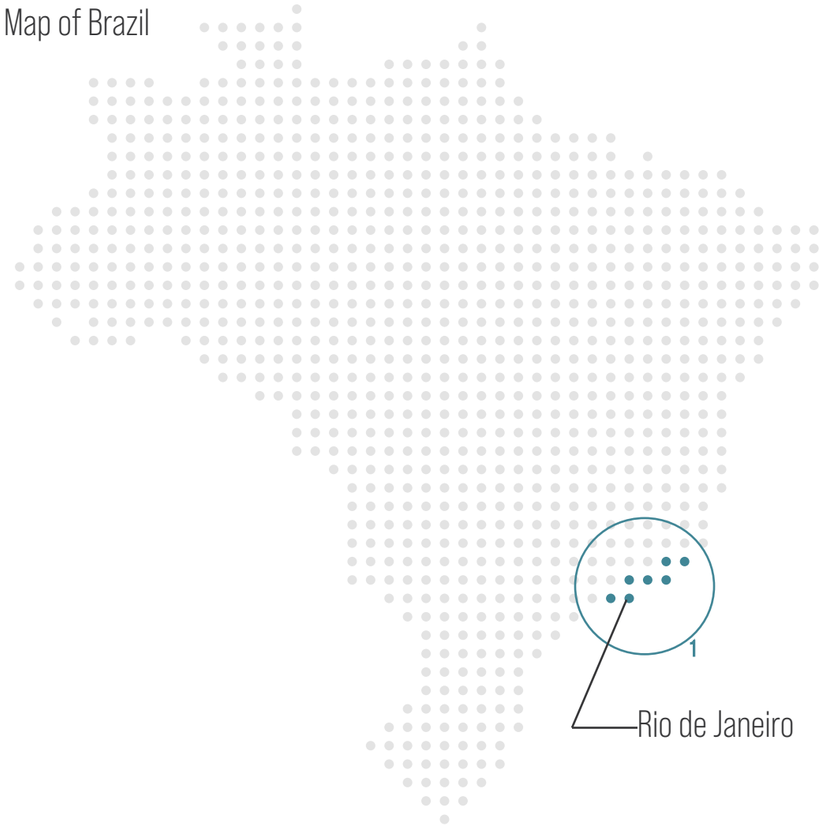
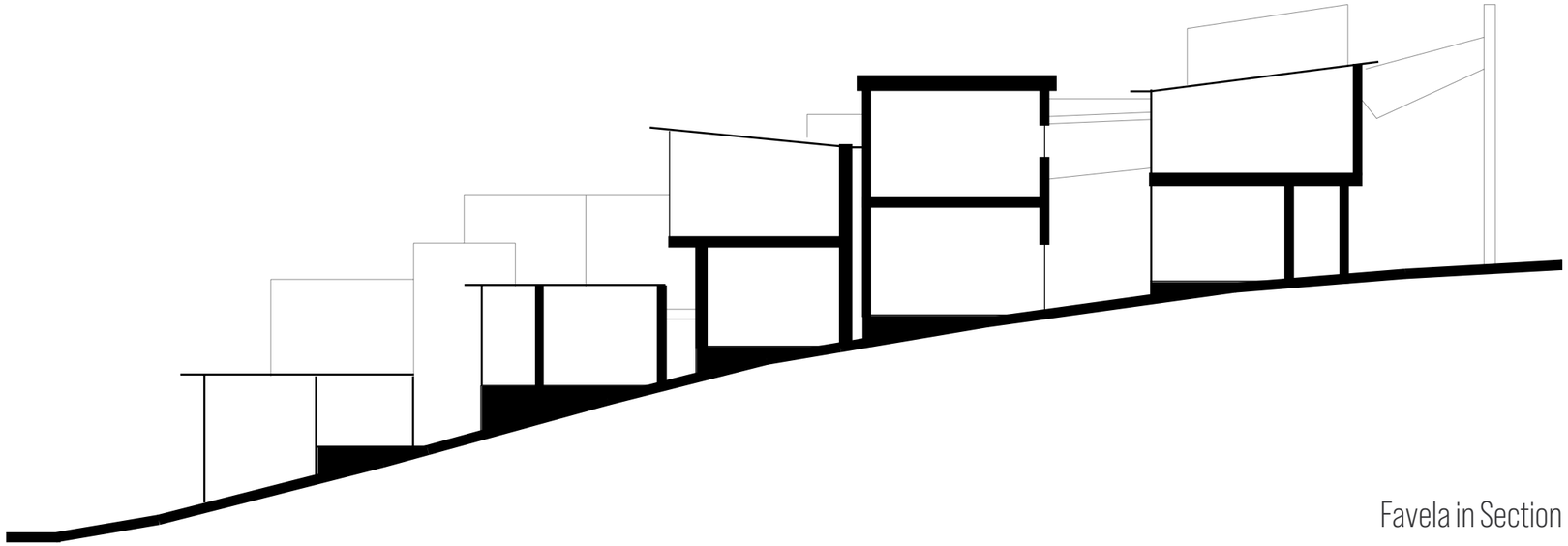


Figure 3.2

Figure 3.3

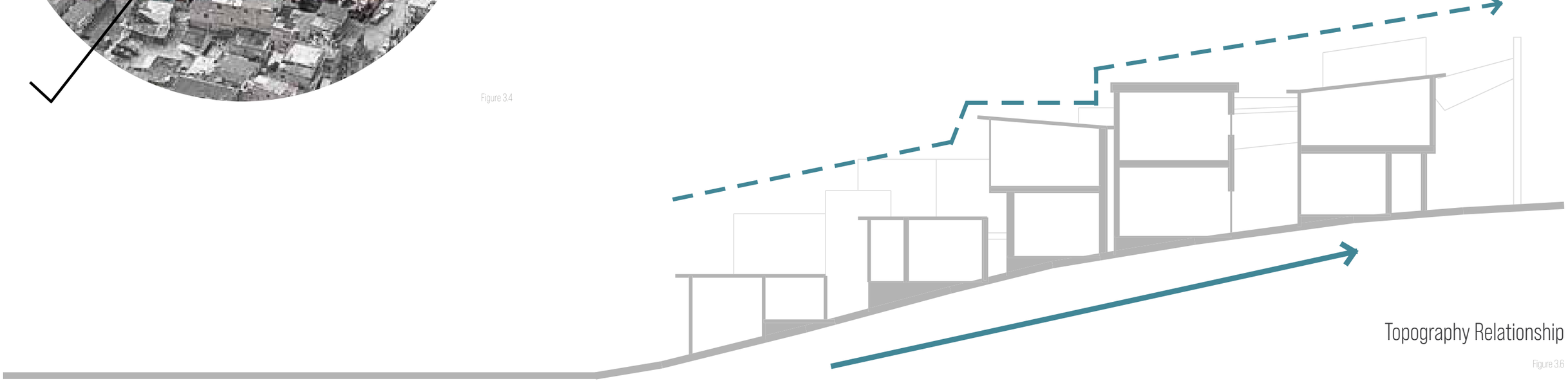
The favelas are found at the outskirts of Rio de Janeiro. Spontaneous houses constructed on hillside; Rio's favelas are home to more than 1 million people. The settlements are overcrowded. But considering the favelas while seeking my site gave insight on my design approach. By indicating methods of identity and enclosure in the favelas, I saw similarities that may be applied to a stadium's structure. Houses are constructed of scrap material including concrete slabs, metal sheeting and bricks due to the resident's limited access to building material. Also the reaction to the topography, shown in FIGURE, resembled the same slope in stadium seating.

Figure 3.4



Favela in Section

Figure 3.5



Topography Relationship

Figure 3.6

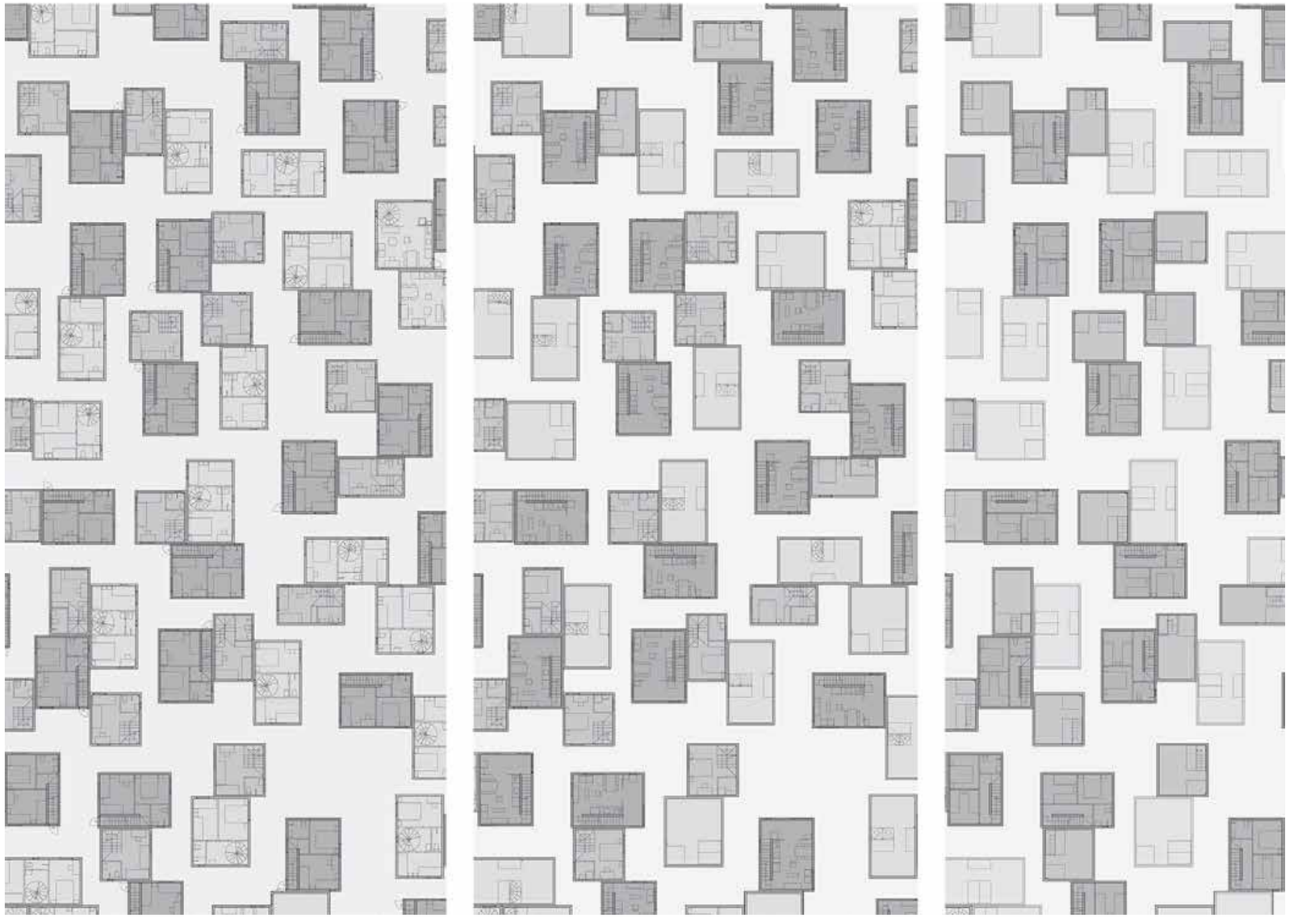


Figure 3.7

3.2 Site Selection

Maracana Stadium

One of the most symbolic spaces in Rio is the Maracanã Stadium. It hosted the final World Cup game, was home to the opening and closing ceremonies of the Olympics. The concrete bowl was able to fit more than 50,000 to create an energetic atmosphere. The stadium has historically given sports fans an extraordinary experience that can only take place in this size stadium. Unfortunately, billions of dollars were spent to renovate the stadium before the 2014 World Cup. The renovation ignored opportunities to improve the surrounding community, but instead did the opposite by demolishing a museum of indigenous culture. Also, the stadium's upgrade "resulted in the displacement of 19,000 families and the demolition of several favelas." Stated by Benjamin Flowers. I chose the stadium for the opportunity to introduce residential and educational spaces to a structure that ignores the community. It has been and should remain a memorable spot.

Figure 3.8

Figure 3.9

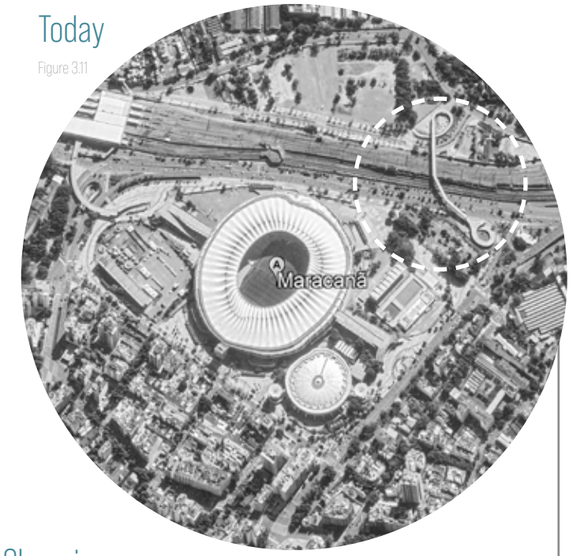
History

Shown in Figures 3.10 and 3.11, the stadium's lot has transitioned from a space of life with multiple complexes and vegetation to a space limited to a walking path around a closed area. Even with the paths that were added to give direct access to the stadium's lot, the space is being wasted. By recognizing the history, I can see there is an immediate need to reconnect to the neighborhood.

Figure 3.10

2002

Figure 3.11



Today

1950 — Opening

Maracana officially opened. Hosted the World Cup 8 days later.

2000 — Renovation

Underwent renovations to increase capacity

2007 — Reopen

Open after nine months of closure

2014 — World Cup

Hosted FIFA World Cup

2016 — Olympics

Hosted selected games of 2016 Summer Olympics and Paralympics

2017 — Abandoned

Daily tours were canceled while the stadium was vandalized and looted.

2020

3.3 Site Analysis

Figure 3.12

Greenspace

Vegetation

Figure 3.13

Population Density

Highest Density

High Density

Least Density

Figure 3.14

Ground Level Accessibility

<---> Entry Point

Pedestrian Path

Figure 3.15

Public Transit

Bus Stations

Figure 3.16

Public Spaces

Parks

Plaza

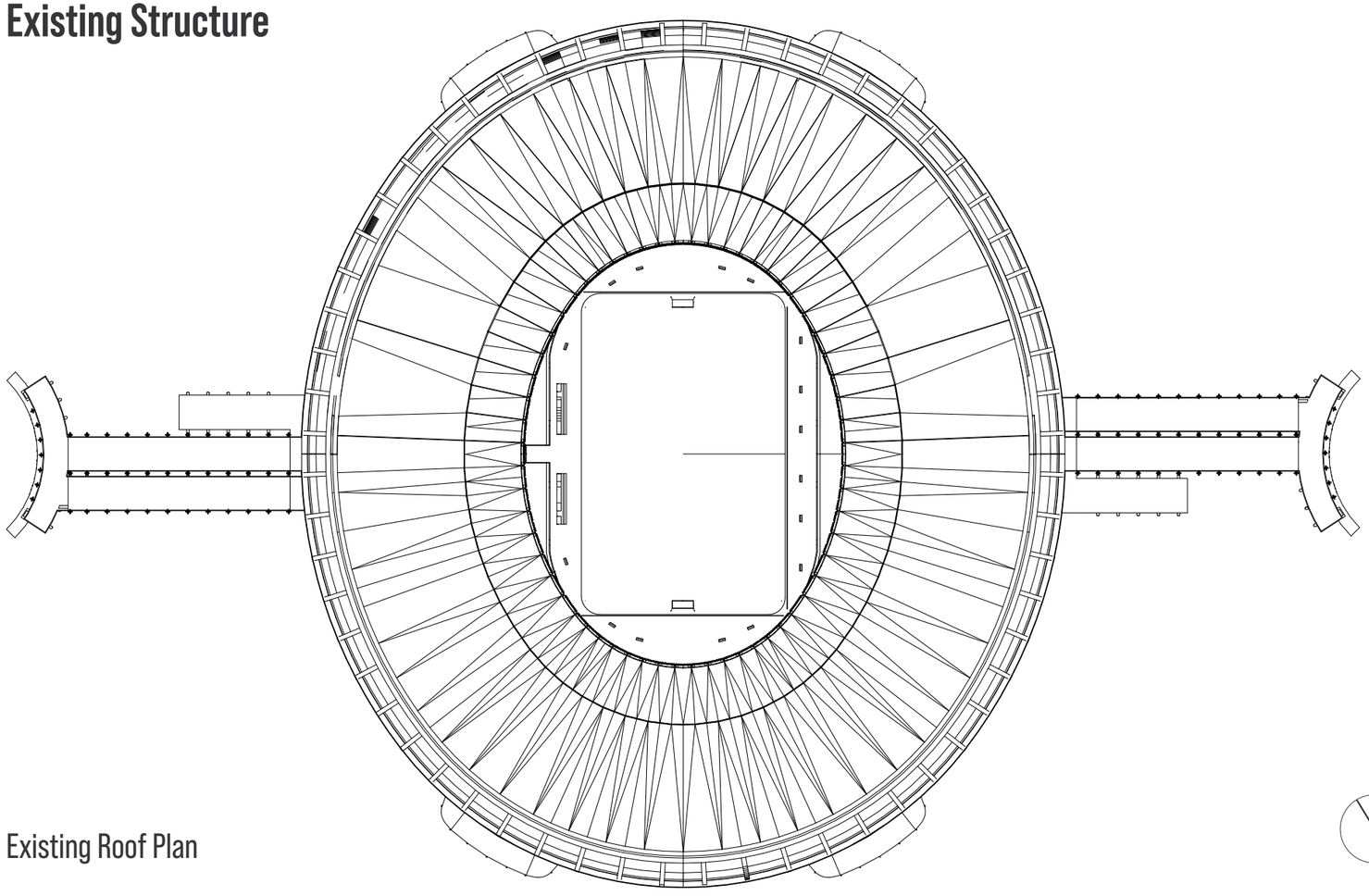
Figure 3.17

Schools

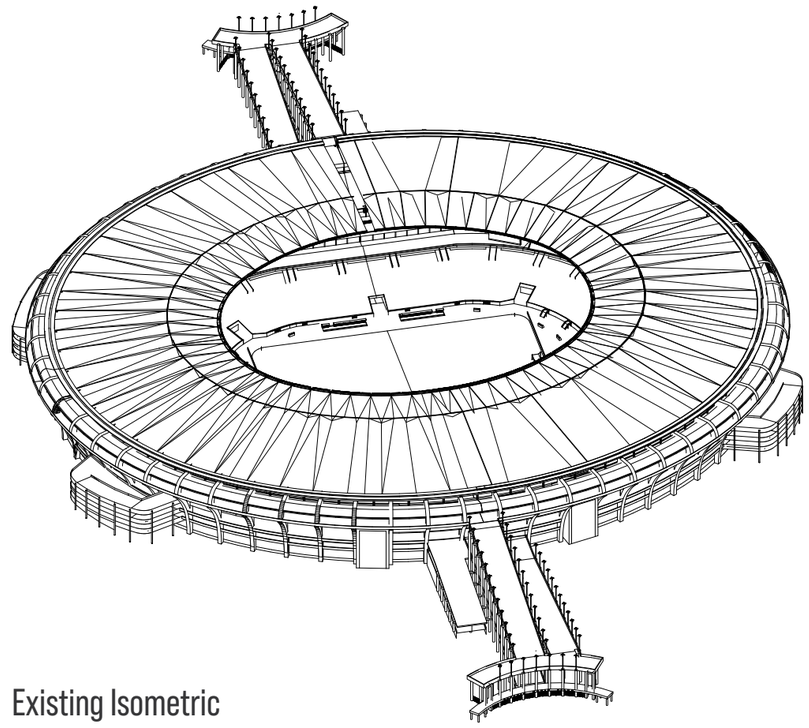
Higher Education

K-12

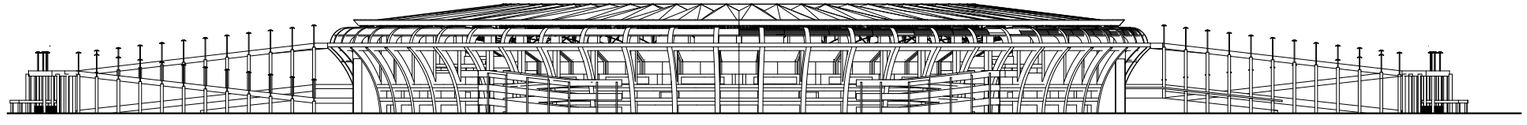
Existing Structure



Existing Roof Plan



Existing Isometric



Existing South Elevation

Study Conclusion

The Maracanã Stadium offers an opportunity to give a space to the displaced citizens while reintegrating back into the urban fabric. Some issues found in the favelas like limited housing, amenities, and schooling can be solved by inserting new program into the stadium. However, there is still need for the structure to successfully reopen. My analysis finds the stadium is accessible via public transit, but currently the stadium remains isolated. It remains empty and vandalized throughout the year and does not offer any connections to the surrounding social and cultural context. The misused space within and around the stadium presents an opportunity to integrate the Maracanã back into the urban fabric. The lack of vegetation and public gathering spaces make the stadium's exterior a well-suited place to input marketspaces and plazas. The area offers a good amount of higher learning, so the newly accompany stadium would give easier access to residents that was not offered before.

Figure 3.18

Chapter 04

COMPOSITION

4.1 Design Process

Concept Development

My thought process was guided by finding a balance between the existing, new, and demolished. The goal was to find the best porosity while not removing too much of the original structutre.

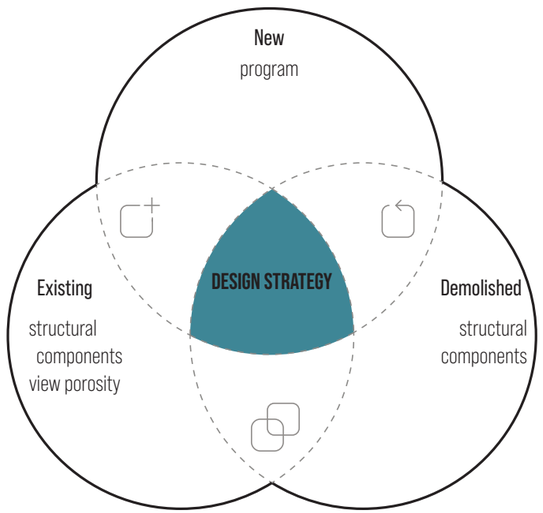


Figure 4.1

Stadium

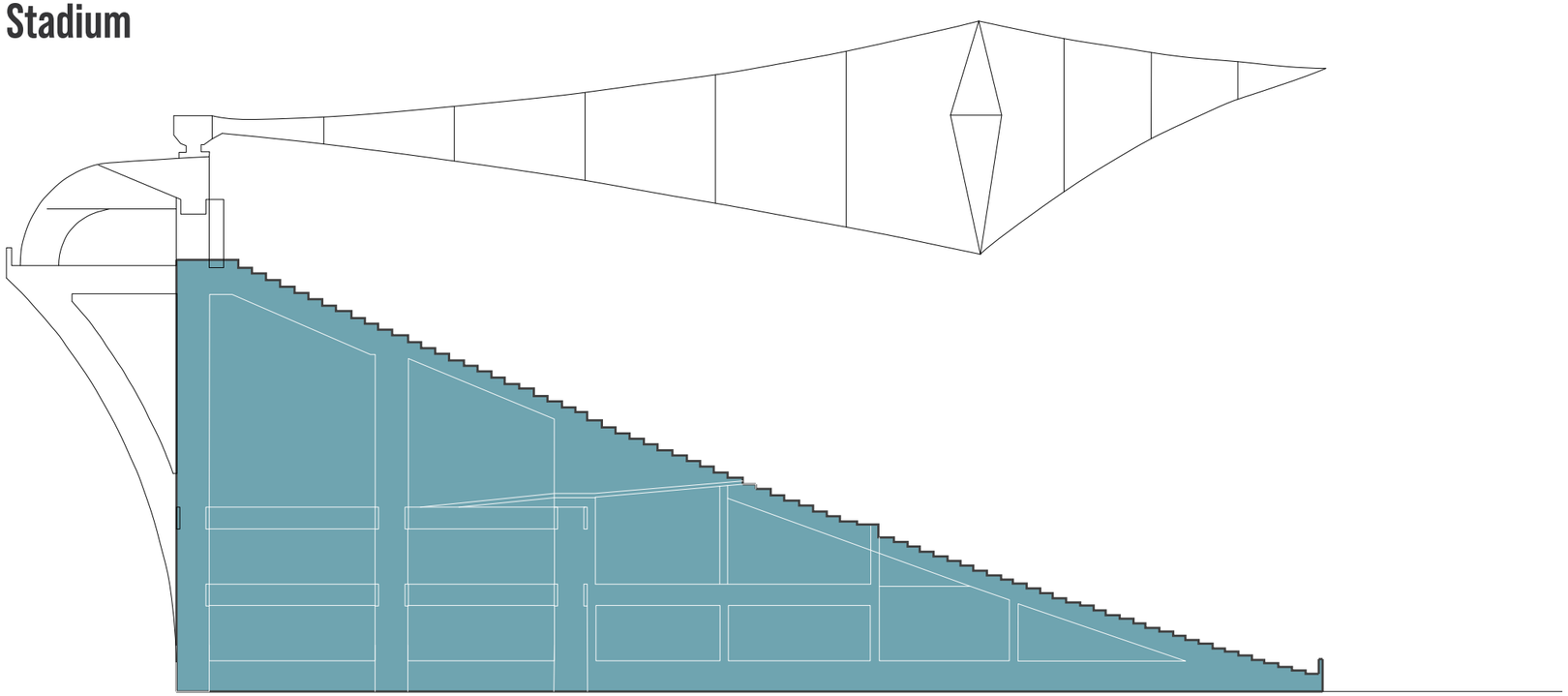


Figure 4.2

Modification

The initial step was to divide the existing skeleton to reduce the scale size.

This move allowed light opportunities to penetrate the ground level, and to create porosity throughout.

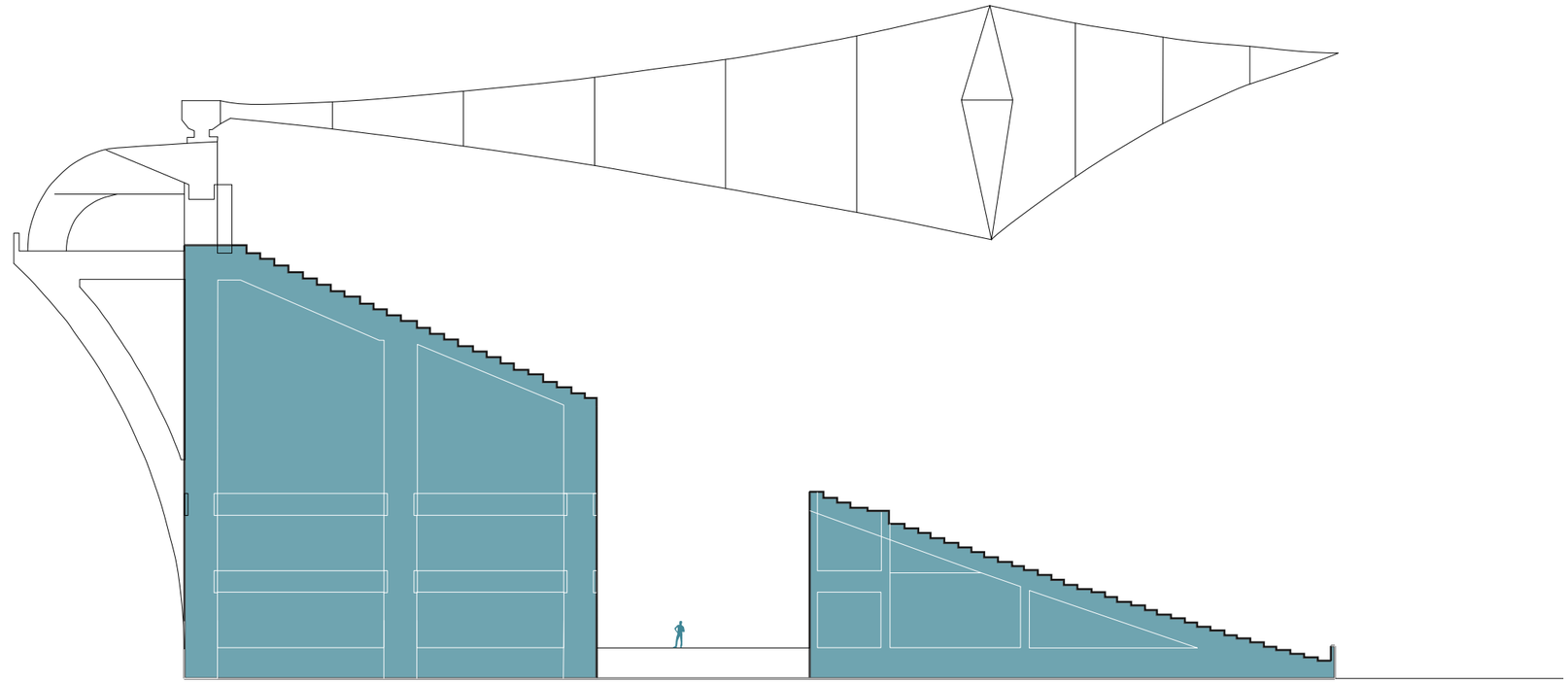
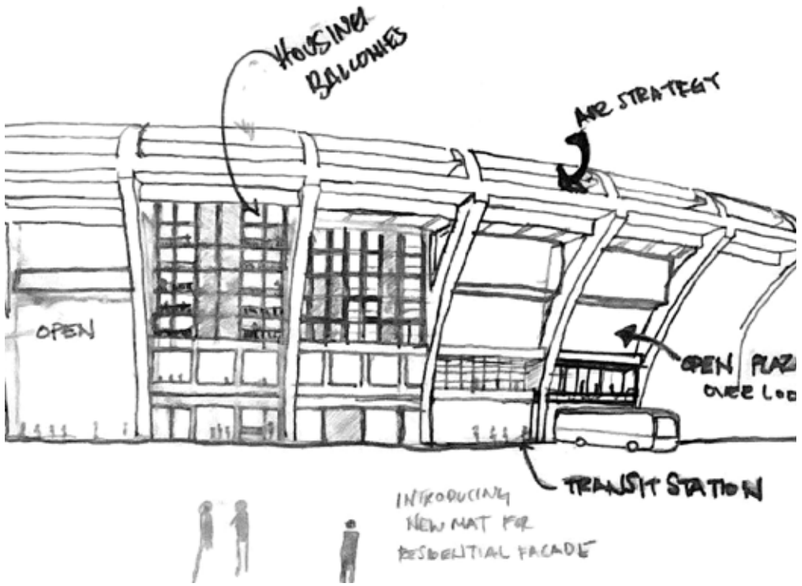
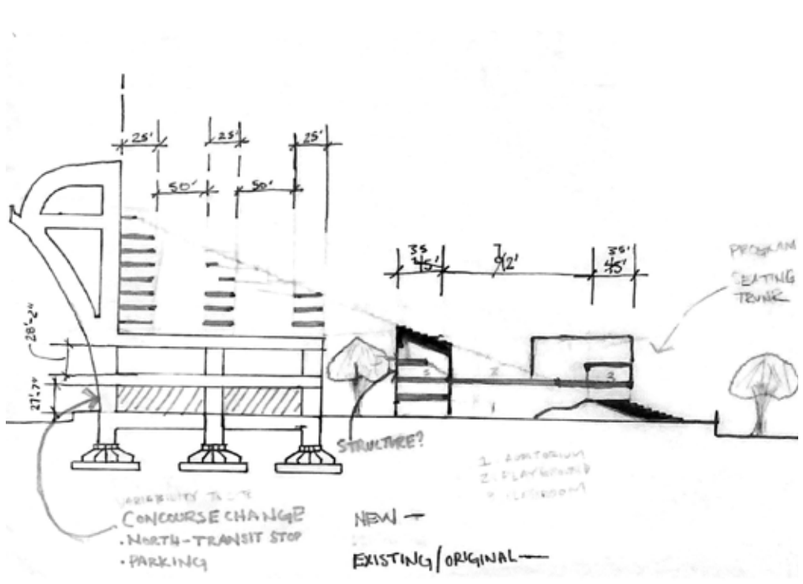
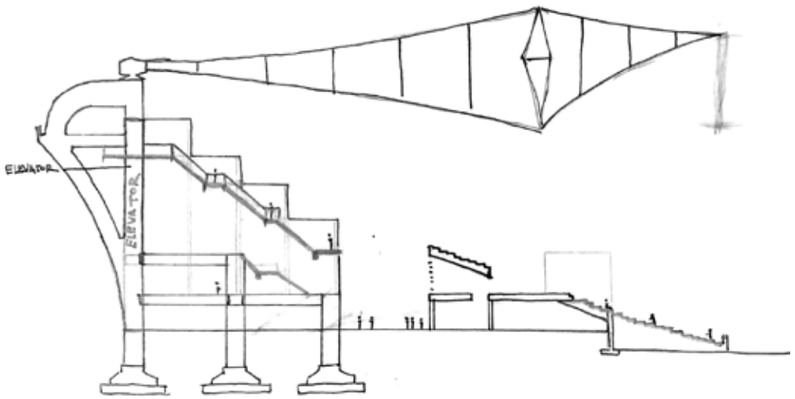


Figure 4.3

Process Sketching

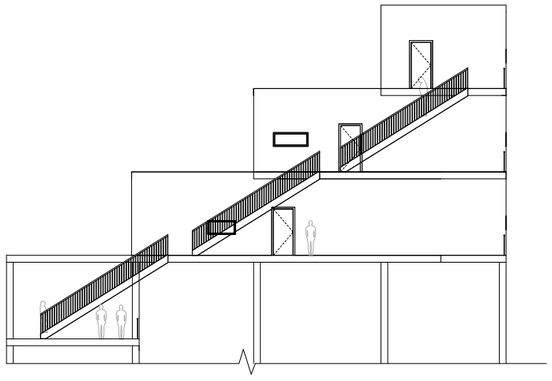


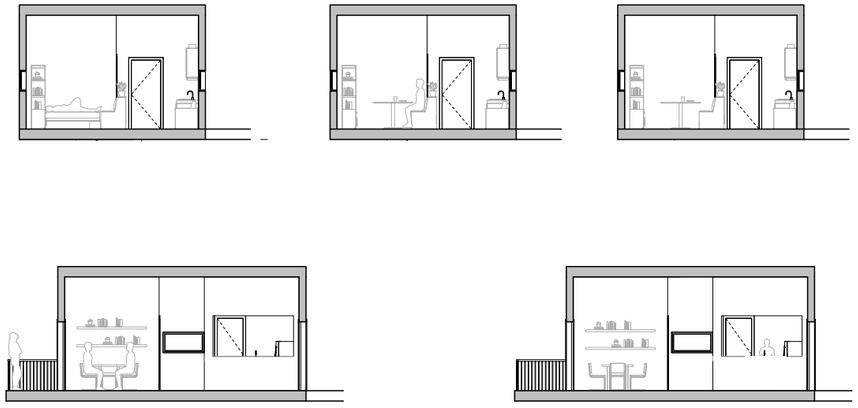




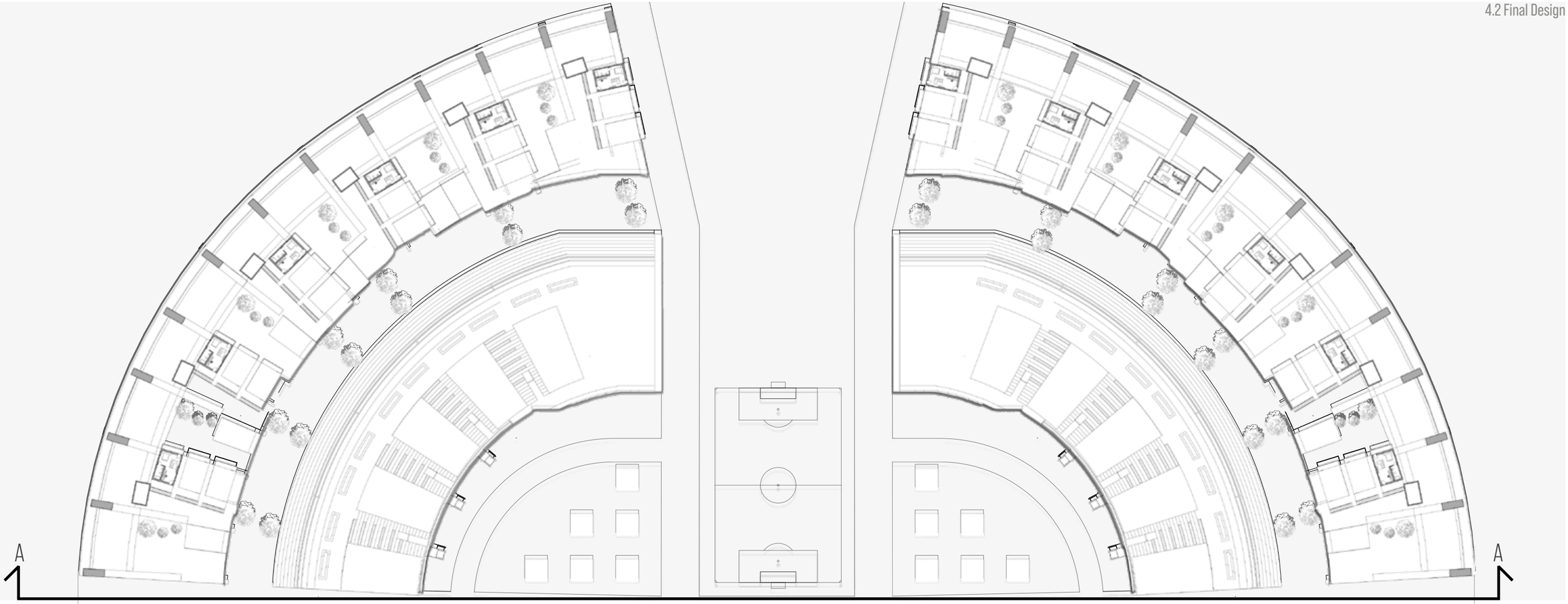
Initial Units

The intial units were tested to see the variety of living units that can be included in the design. While using these types I used multiple configurations to see how daily activities changed throughout the day. However, the units did not efficiently receive light as well as the configuration of the smaller units. Transitioning to a single unit type also benefited for an easier construction method.





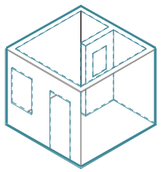
Site Plan



Top Floor Plan
Scale: 1'-0"= 1/64"

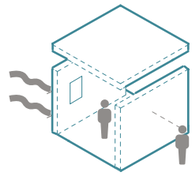
Section A
Scale: 1'-0"= 1/64"

1

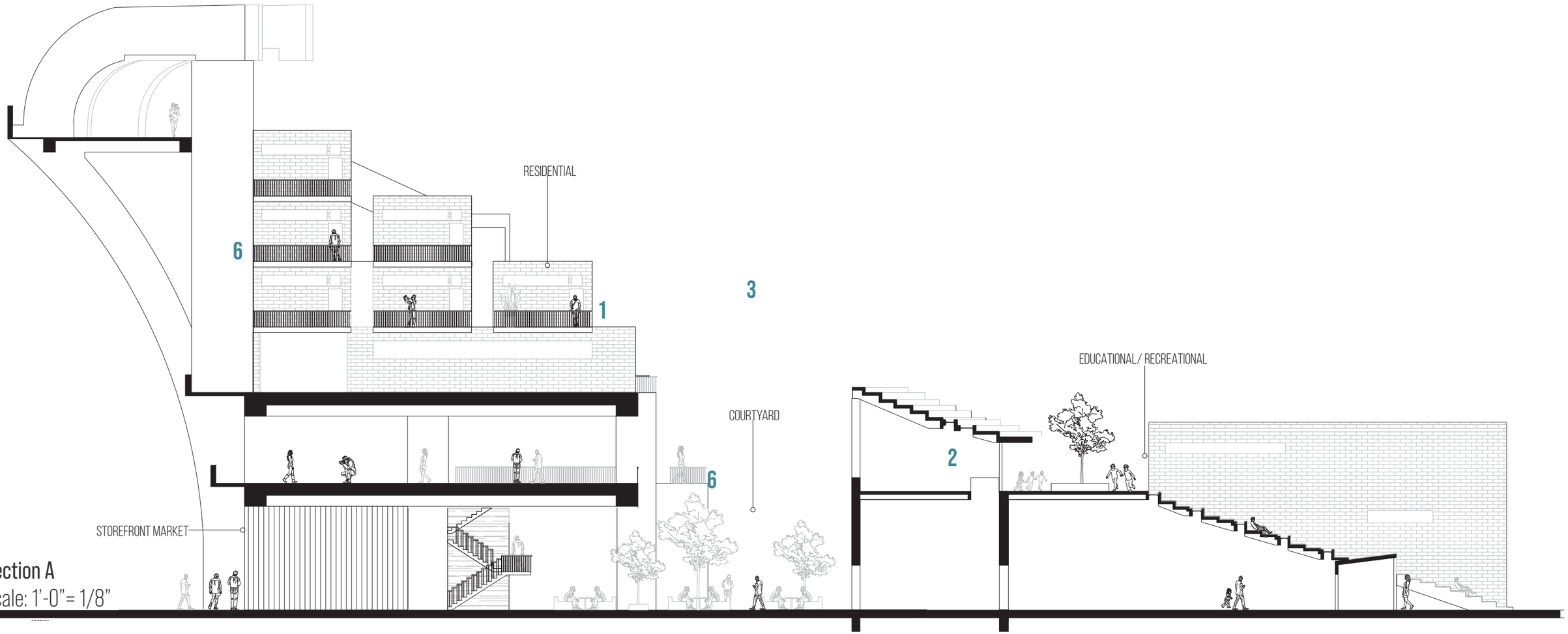


The tenant uses their balcony as an area of for personal expression.

2



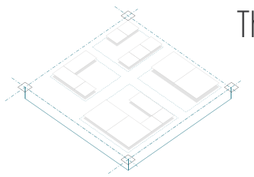
The spaces are designed to allow light to enter the existing structure to create a new space under the seating.



Section A

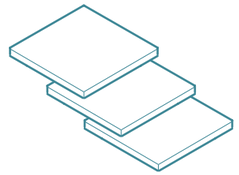
Scale: 1'-0" = 1/8"

3

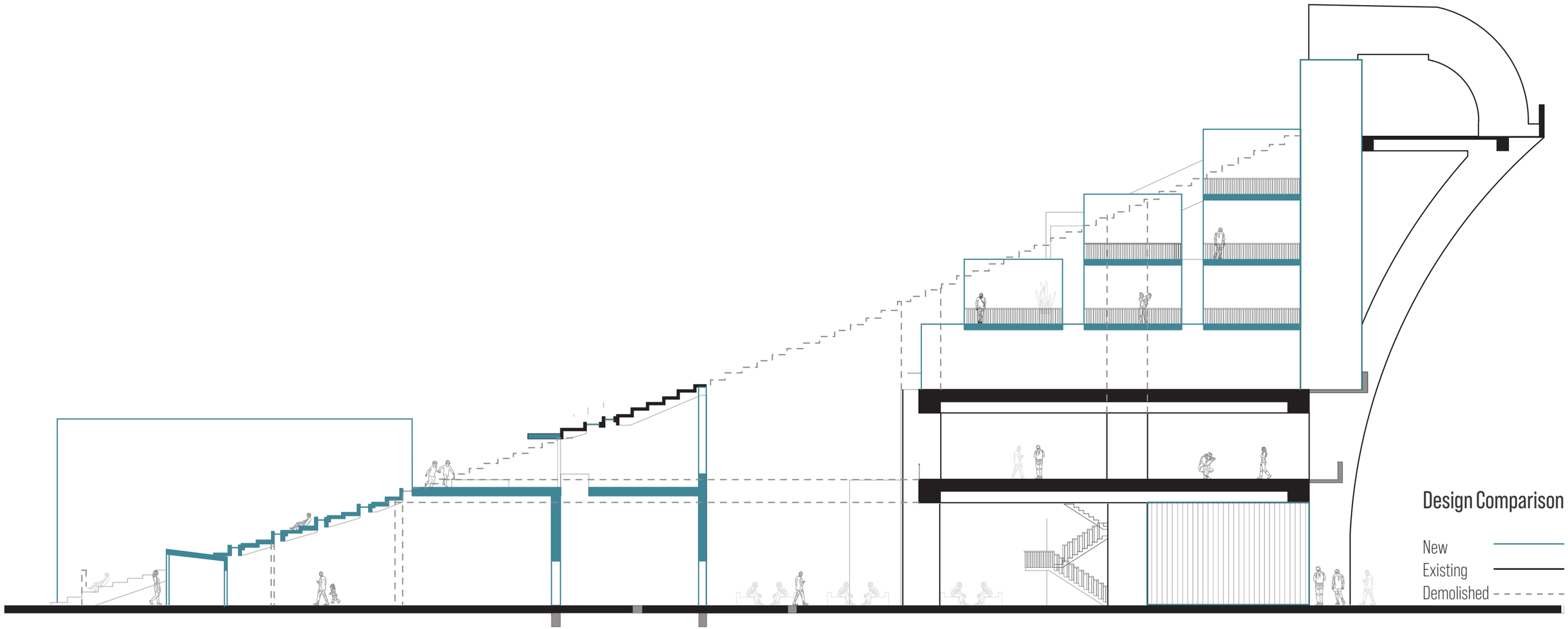


The large scale collective space is broken down into smaller scale occupancies.

6



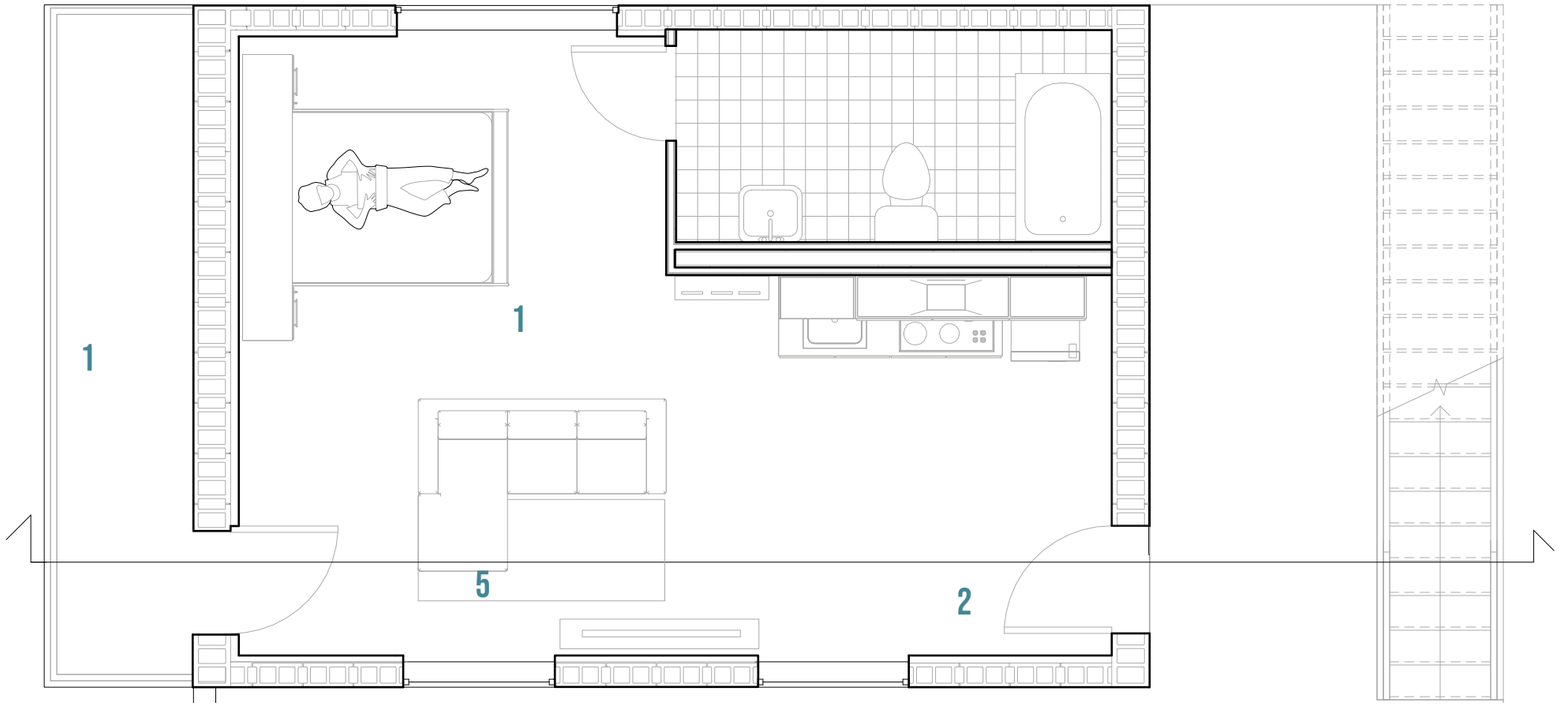
Designed the residential units to overlook the open courtyard spaces to be visually connected in the space. The bottom level courtyard is terraced and used for circulation.



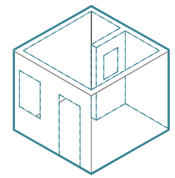
Design Comparison

New
Existing
Demolished

Residential Unit Plan

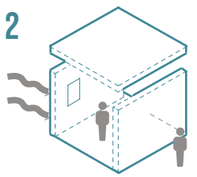


1



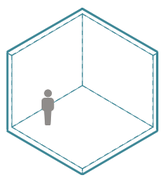
Wall indention for casework allows the occupants to display personalized items to show their personality.

2



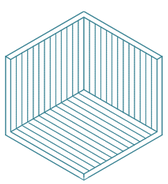
The openings are positioned to allow cross ventilation while prohibiting public views in.

4



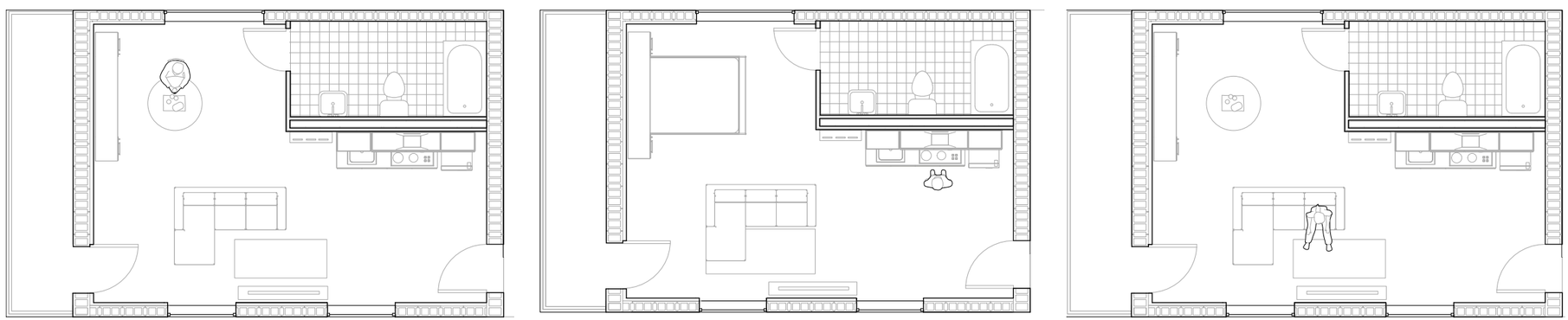
Tenant's daily routine may consist of lying in bed, sitting on their couch, or using their kitchen to encourage long term comfort.

5

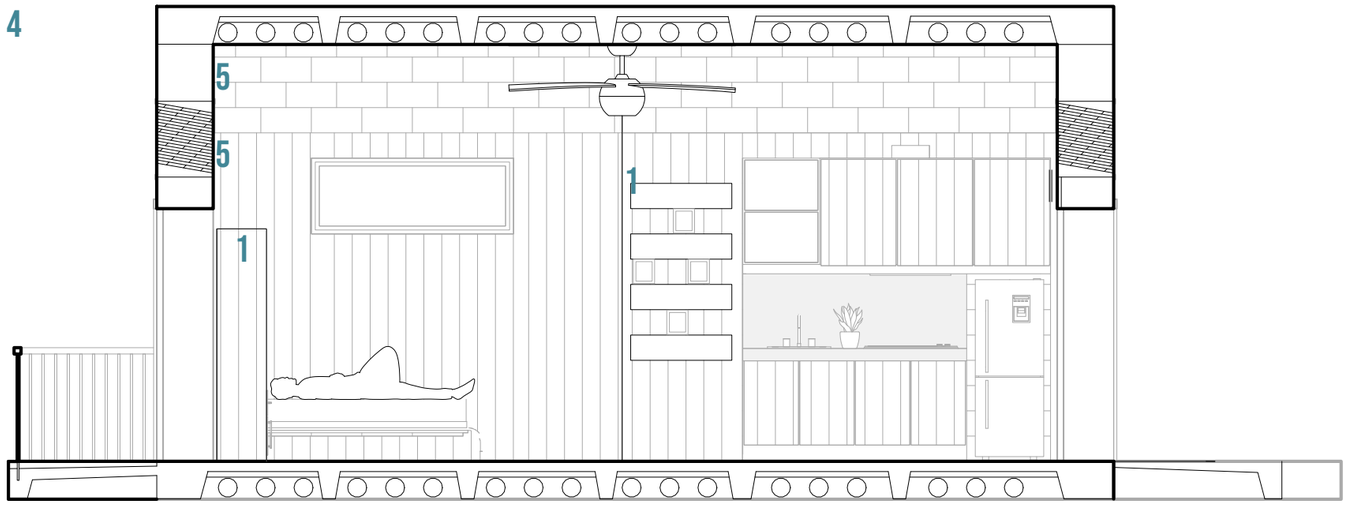


The material palette is varied from the existing stadium by adding a rug to contrast the hard concrete floor slab.

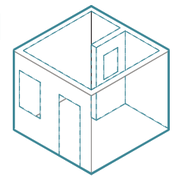
Life in the space



Residential Unit Section

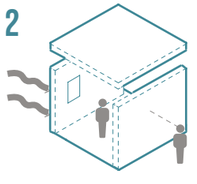


1



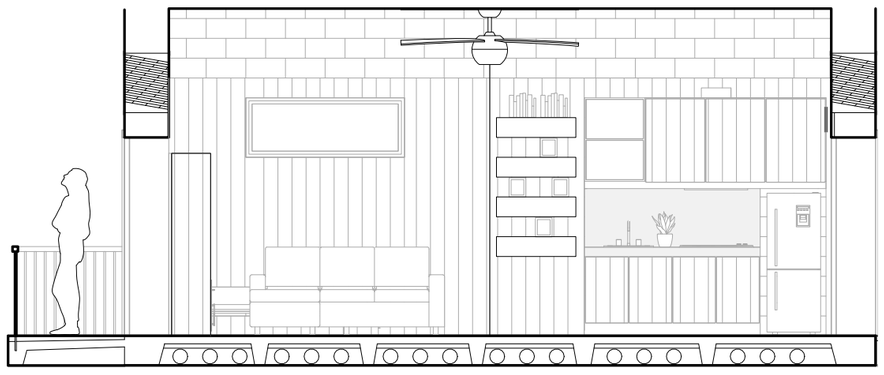
Wall indents for casework allows the occupants to display personalized items to show their personality.

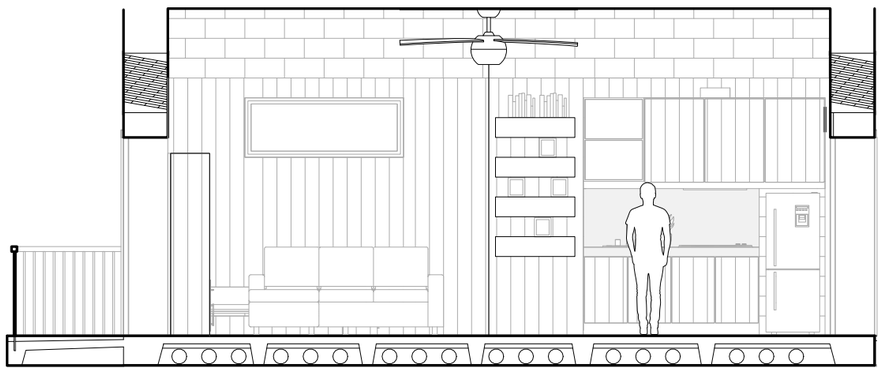
2



The openings are positioned to allow cross ventilation while prohibiting public views in.

Life in the space





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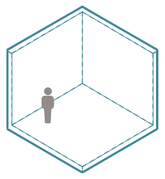
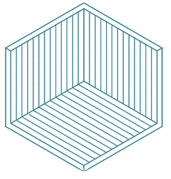


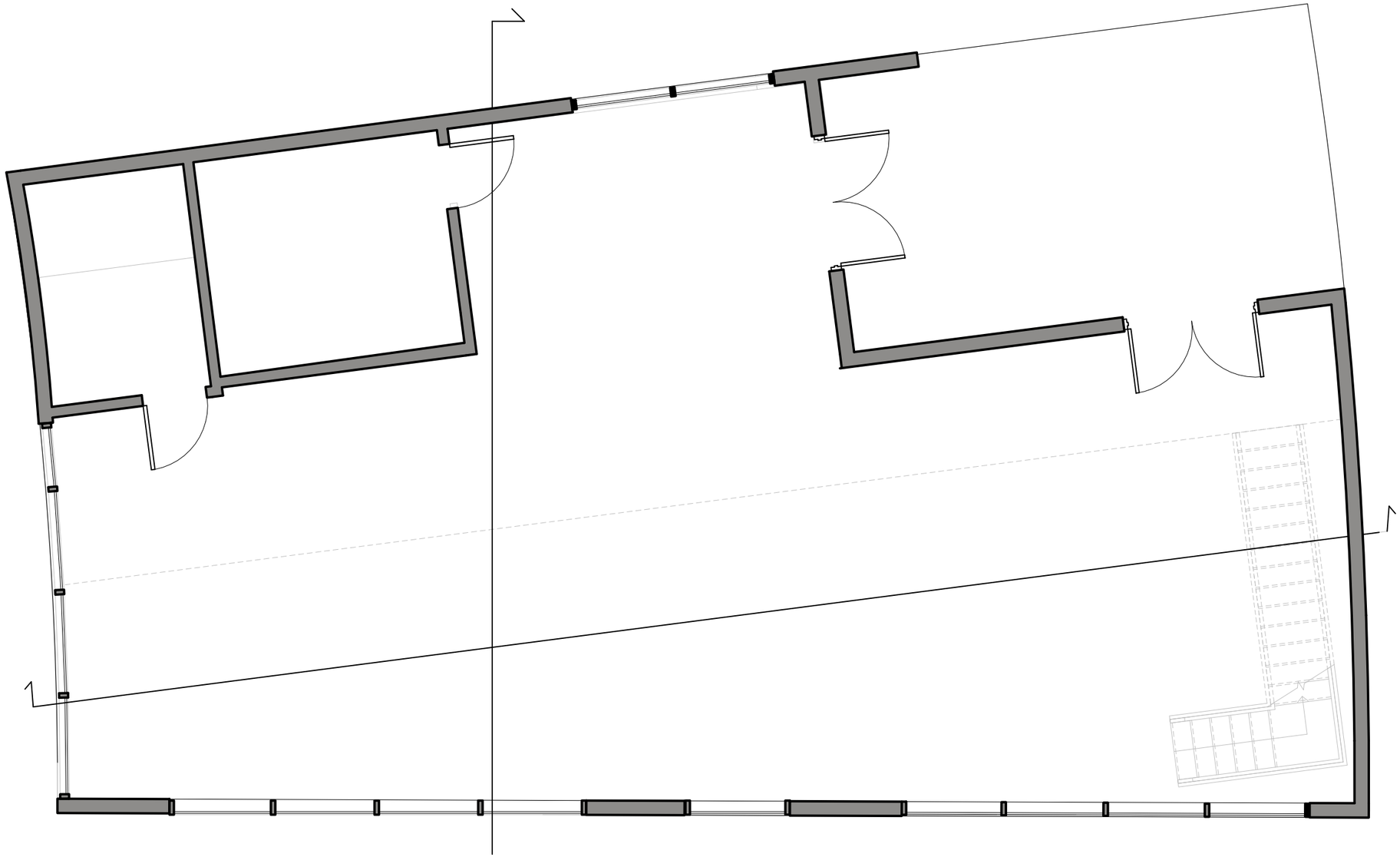
Tenant's daily routine may consist of lying in bed, leisure on balcony, or using their kitchen. This opportunity is not granted in a conventional stadium.

5

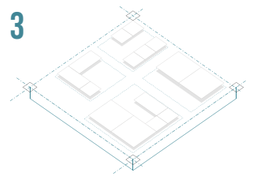


The material palette is varied from the existing stadium by using cmu for structure and wood panel for direct occupant touch.

Educational / Recreational



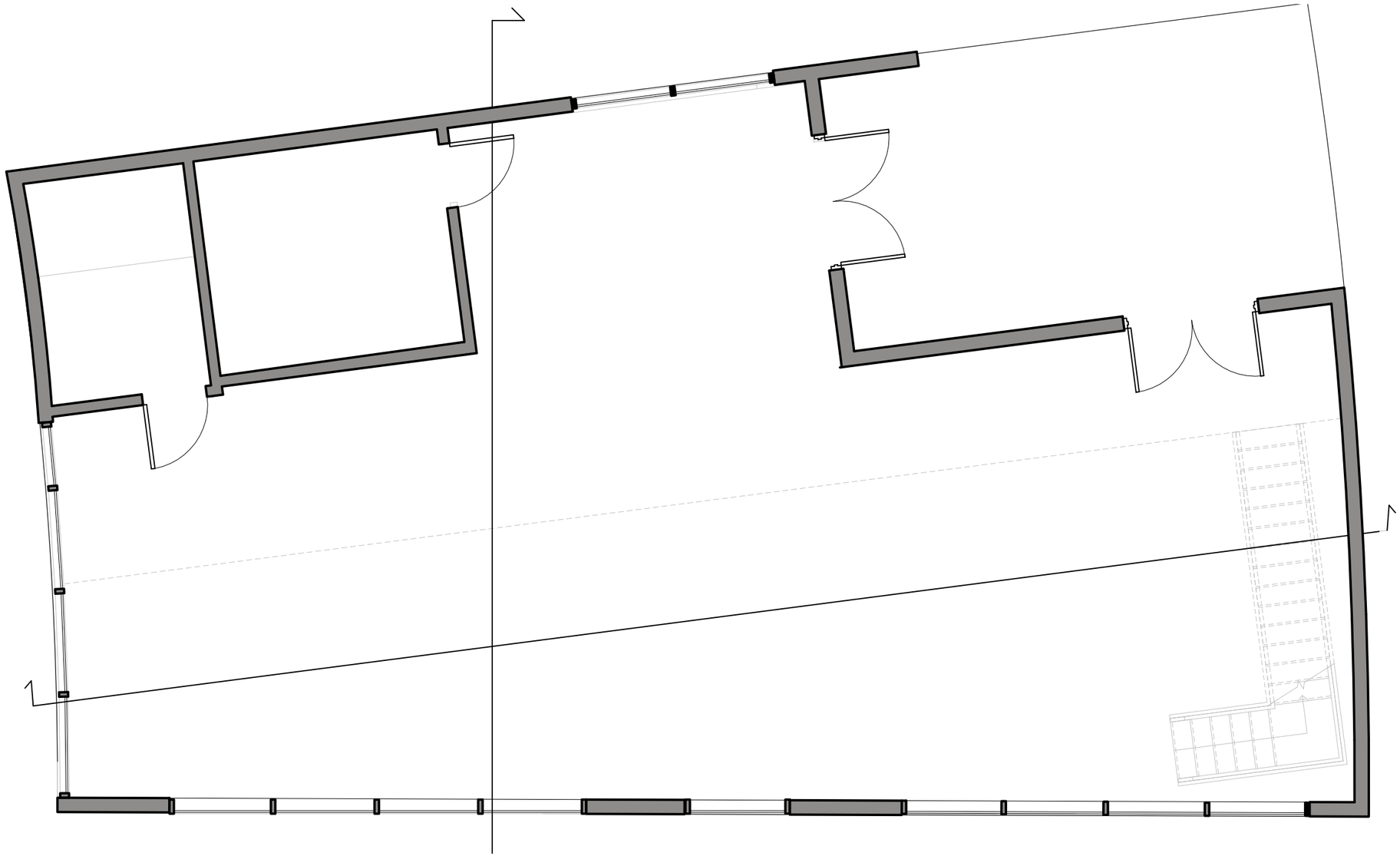
3

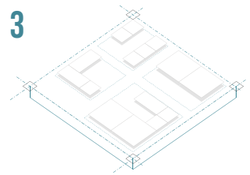


The design houses small spaces adjacent to the overall playroom.

Ground Level Plan
Scale: 1'-0" = 1/16"

Educational / Recreational

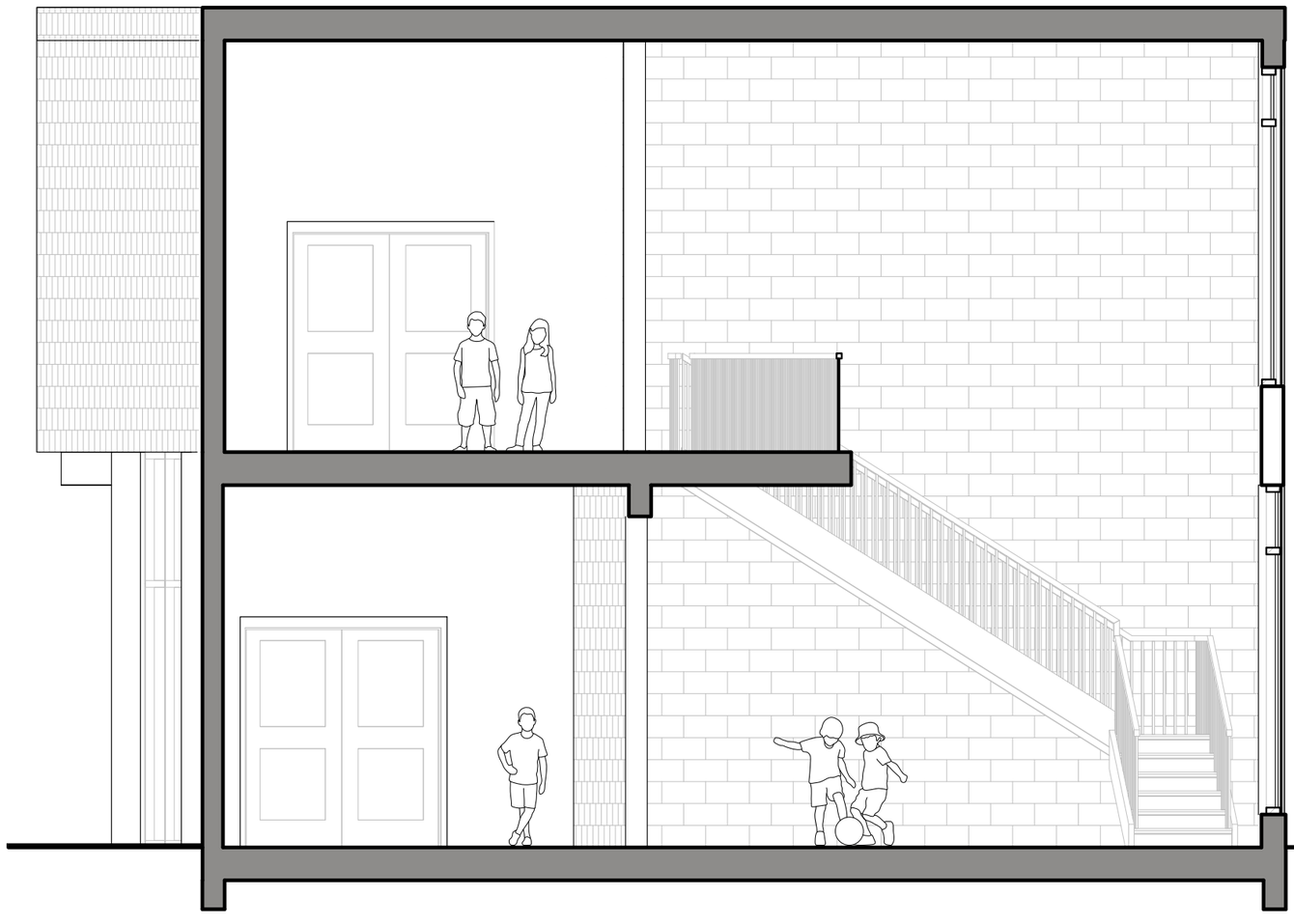




3

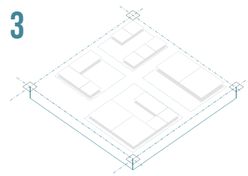
Th larger playroom works as a transitional space to both levels.

Second Floor Plan
Scale: 1'-0"= 1/16"

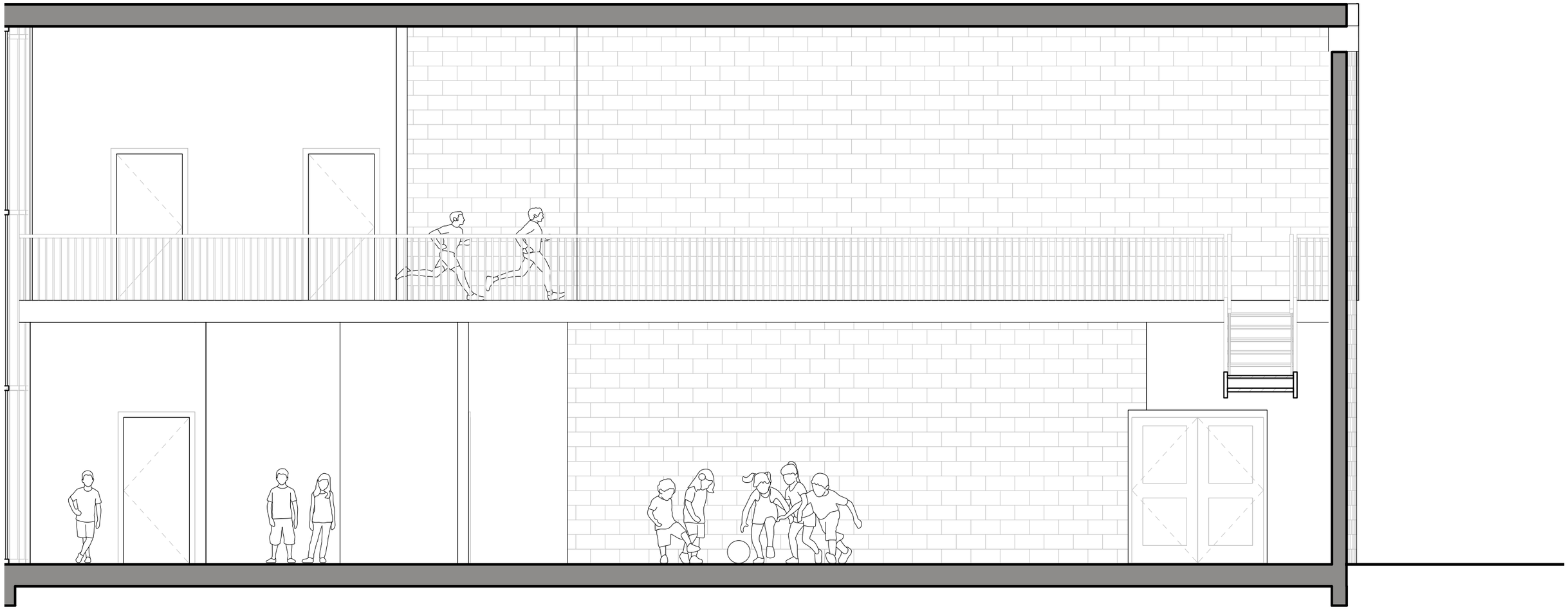


Section A
Scale: 1'-0" = 1/8"

3

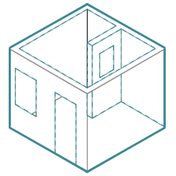


The design houses small spaces adjacent to the overall playroom. Th larger playroom works as a transitional space to both levels.



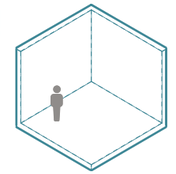
Section B
Scale: 1'-0" = 1/8"

1



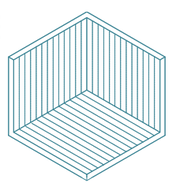
wall indention for casework allows the occupants to display personalized items to show their personality.

4



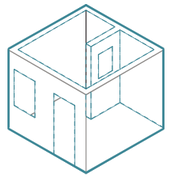
occupant's daily routine may consist of lying in bed, sitting on their couch, or using their kitchen to encourage long term comfort.

5



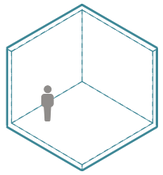
the material palette is varied from the existing stadium by adding a rug to contrast the hard concrete floor slab.

1



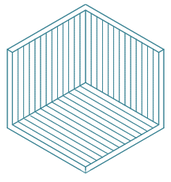
wall indents for casework allows the occupants to display personalized items to show their personality.

4

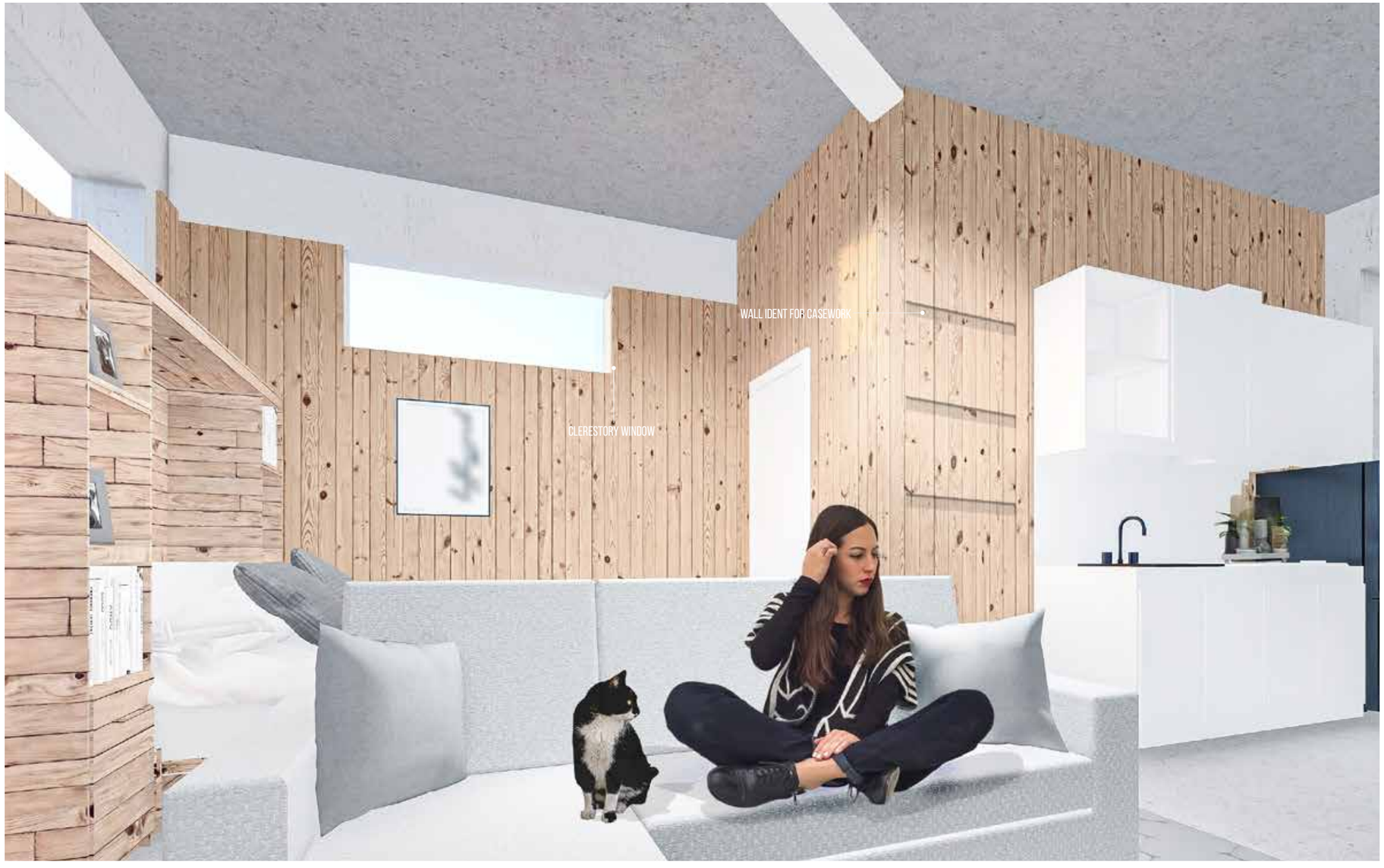


occupant's daily routine may consist of lying in bed, leisure on balcony, or using their kitchen. This opportunity is not granted in a conventional stadium.

5



the material palette is varied from the existing stadium by using cmu for structure and wood panel for direct occupant touch.



4.3 Reflection

Reflection

My initial interest of the topic was formed by seeing the subsequent issue of stadium afterlife. After further research I was informed that to solve the issue of an abandoned stadium, I would have to figure out the obstacle of converting the massive structure. The most practical method to solve the issue was to create an adaptive re-use project. This thesis is a proposal to transform the stadium typology to provide longevity for abandoned stadiums while solving needs for the city. My method raised concerns of how the construction methods and social needs would re-connect the stadium to the neighborhood.

Next Step

The next step for my research is to test and apply the design method to different stadiums. Certain aspects of my research were influenced by factors that were specific to the Maracanã Stadium. However, to truly see the possibilities of the stadium typology transformation, I would have to analyze multiple abandoned stadiums. The goal is to create a set methodology that is a permanent solution that will extend the life of a stadium.

Chapter 05

APPENDIX

5.1 Works Cited

Books

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Meis, Dan. “Death of a Stadium”. SXSW. Four Seasons, San Jacito

5.2 Images

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Figure 1.2 Malik, Jalaal “Design Consideration”

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Figure 2.1 PKMN Architectures https://www.archdaily.com/566605/pkmn-architectures-builds-transformer-house-studio-in-madrid
Figure 2.2 PKMN Architectures “Studio. Image” https://www.archdaily.com/566605/pkmn-architectures-builds-transformer-house-studio-in-madrid
Figure 2.3 “Kitchen. Image” https://www.archdaily.com/566605/pkmn-architectures-builds-transformer-house-studio-in-madrid
Figure 2.4 Malik, Jalaal “Personal Configurations”
Figure 2.5 www.portico.com
Figure 2.6 Malik, Jalaal “Method of Enclosure”
Figure 2.7 ASA Steam School https://www.archdaily.com/948158/asa-steam-school-equipo-de-arquitectura
Figure 2.8 Malik, Jalaal “Exterior Perspective”
Figure 2.9 Malik, Jalaal “Views in Section”
Figure 2.10 Casa Fundamental Kindergarten https://www.archdaily.com/946887/casa-fundamental-kindergarten-gabriel-castro-plus-marcos-franchini-plus-pedro-haruf
Figure 2.11 House N https://www.archdaily.com/7484/house-n-sou-fujimoto
Figure 2.12 Malik, Jalaal “Long Term Materiality”
Figure 2.13 Malik, Jalaal “Painted cmu and wood surfaces”
Figure 2.14 Malik, Jalaal “Wool module on concrete slab”
Figure 2.15 Malik, Jalaal “Wood paneling”
Figure 2.16 Casa Fundamental Kindergarten https://www.archdaily.com/946887/casa-fundamental-kindergarten-gabriel-castro-plus-marcos-franchini-plus-pedro-haruf
Figure 2.17 Malik, Jalaal “Collective Space”
Figure 2.18 Malik, Jalaal “Furniture Scale”
Figure 2.19 Stair House https://www.archdaily.com/944965/the-stair-hous-formative-architects

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Figure 3.1 Malik, Jalaal “Map of South America”

Figure 3.2 Malik, Jalaal “Map of Brazil”

Figure 3.3 Veysseyre, Solène <https://www.archdaily.com/531253/case-study-the-unspoken-rules-of-favela-construction> ISSN 0719-8884

Figure 3.4 Hearn, Rachel unit16bartlett.wordpress.com/2012/11/07/city-urban-design-learning-from-favelas/.

Figure 3.5 Malik, Jalaal “Favela in Section”

Figure 3.6 Malik, Jalaal “Topography Relationship”

Figure 3.7 Kerez, Christian “Plan”

Figure 3.8 Charner, Flora edition.cnn.com/2017/02/01/football/maracana-stadium-rio-2016-olympics/index.html

Figure 3.9 Charner, Flora edition.cnn.com/2017/02/01/football/maracana-stadium-rio-2016-olympics/index.html

Figure 3.10 Google Earth

Figure 3.11 Google Earth

Figure 3.12 Malik, Jalaal “Vegetation”

Figure 3.13 Malik, Jalaal “Population Density”

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Figure 4.1 Malik, Jalaal “Concept Development”
Figure 4.2 Malik, Jalaal “Stadium”
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